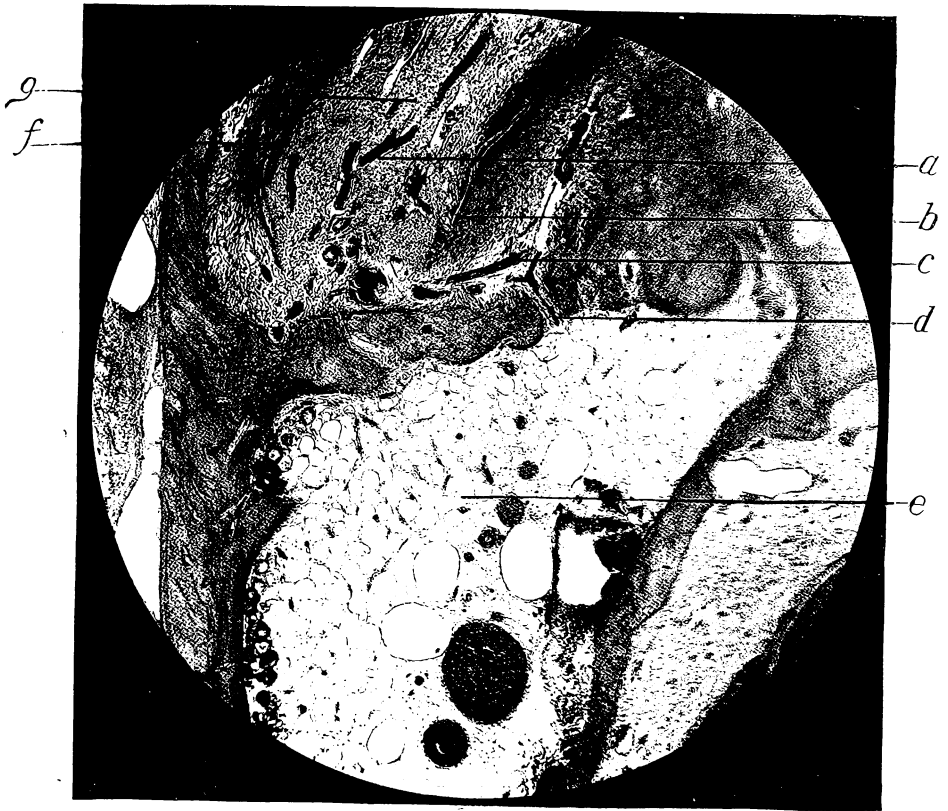


*Plate I.*



SECTION THROUGH LOWER JAW OF *BETTONGIA LESUEURI* SHOWING END OF ROOT OF FORMING TOOTH AND MEDULLARY SPACE OR CANAL.  $\times 75$ .

- a*.—Blood vessels in pulp at end of root of tooth.
- b* and *f*.—End of root.
- c*.—Bundle of non-medullated nerve fibres.
- d*.—Blood vessel entering from medullary canal and giving off branches to pulp and pericementum.



# Plate II.

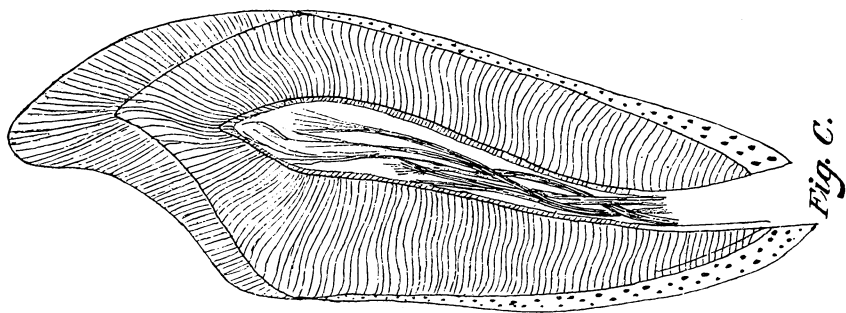
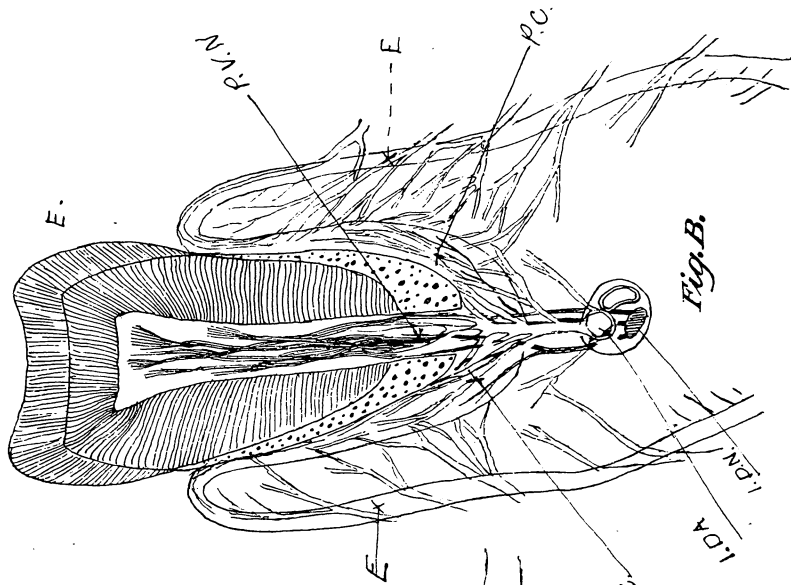
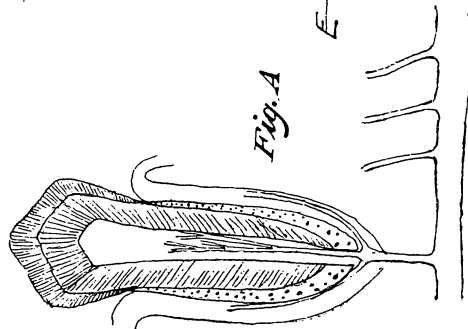


Fig. A.—Usual diagram of vessels entering the pulp canal.

Fig. B.—Diagram of probable mode of blood supply to pericementum and pulp. Vessels from external periosteum exaggerated. I. D. N.—Inferior dental nerve. I. D. A.—Inferior dental artery. P. C.—Pericementum. P. V. N.—Pulp vessels and nerve. E.—Maxillary periosteum.

Fig. C.—Section of cuspid, age 13, showing nerves in medullated bundles.





## Criticism of the Editor.

By C. EDMUND KELLS, JR., D.D.S., New Orleans, La.

### Editor ITEMS OF INTEREST.

MY DEAR DOCTOR: I have read and re-read your editorial in the September issue, hesitating about replying to it, until Dr. Summa's reference to my illustrations convinced me of the advisability of doing so.

Recognizing the right of the editor or readers to criticise any contribution, I believe it will be granted that a contributor may likewise have the privilege of criticising the part which the editor plays in placing said contributions before the readers of his journal.

But first, to the editorial in question—You say “we may erect the dogma that nothing is better than a half-tone from a perfect model, and nothing worse than the results of the same process from imperfect models.”

We may reasonably assume, under this proposition, that with the view of furnishing the highest type of illustrations, the editors of the leading dental magazines always use the half-tone process when the models exhibited are sufficiently perfect for that purpose.

Let us then, as a matter of interest, look over the files of the *Cosmos* and *ITEMS OF INTEREST* for the past two years, and see who have, and who have not, during this period, furnished “*perfect models suitable for the half-tone process.*”

During this time these two journals have published twenty-four issues each, or a total of forty-eight magazines, in which appear about 37 articles upon Prosthodontia and Orthodontia illustrated by 123 half-tones and 115 wood cuts, or, in other words, 123 perfect models were furnished and 115 were “wretched.”

But even the above proportion of perfect models is not correct, for in your recent Orthodontia edition you state that you made some half-tones from *wretched models*, consequently, to be more exact we should deduct

at least seven from the perfect, and add these to the "wretched" list, making a revised total of 116 perfect models and 122 wretched models.

This is rather a bad showing, we must admit, but in order to make this still more interesting, let us note who were the contributors who furnished such "wretched" models that wood cuts had to be resorted to for illustrating their papers.

The name of the writer naturally heads the list, as his recent "wretched" models were partly the inspiration of the editorial in question, but he does not feel that he is in such bad company, for the next name upon the list will be that of Dr. R. Ottolengui, rather a familiar name to most of our readers, and to whom is credited three of the above listed articles, illustrated by *no* half-tones and 29 wood cuts and reproductions of drawings.

Incidentally, it may not be in-apropos to state here that one of these illustrations was so faulty that it did not correctly represent the model, and he was forced to correct it later, which unfortunate mistake could not have happened if his models had been sufficiently perfect "to face the camera with a clear conscience," to quote from Dr. Summa.

Our third name to be inscribed in this "Temple of Fame" will be that of Dr. Norman W. Kingsley, who has to his credit no half-tones and one wood cut.

To most of us who are familiar with Dr. Kingsley and his work, it will be a surprise to hear that he is incapable of making "perfect models," yet we are compelled to believe, under the above circumstances, that you must refer to him and others of his class when you say in this editorial "that dentists of high reputation and known skill, even *including celebrated specialists in Orthodontia*, seem entirely incapable of making perfect models."

Neither, it appears, could Drs. M. L. Rhein and J. L. Andrews working conjointly, get up perfect models, as they are credited with two wood cuts and no half-tones, consequently their names must be added to the list, as also those of Drs. Edw. H. Angle, E. A. Bogue, and many others.

In view of the above facts, we, who contributed the "wretched" models for the *Orthodontia* issue need not worry over the class in which we find ourselves.

But this is not all—speaking for myself, I am free to admit that the models sent you were not intended to be specimens of artistic model work. A busy general practitioner cannot possibly waste his time in taking plaster impressions of unimportant cases of malocclusion.

**Perfect Models  
not  
Requisite.**

I do not say that in some special cases it may not be well to have per-

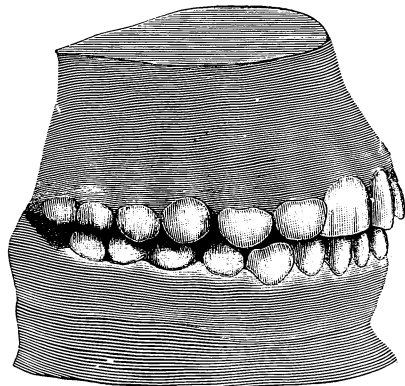
fect models, but in the great majority of cases, once the work is completed, the models are seldom referred to.

Specially interesting cases are the exception of course, but how often do we meet with these? Being general practitioners, we personally have no undue share of this work, and I note that of twenty-two cases which have presented this fall there are but two cases that are of any special interest, the other twenty are ordinary cases requiring no great skill in their treatment.

How unimportant these twenty cases seem to us when compared with such work as a full upper bridge, implantation, porcelain inlays and



Half tone from model showing left upper cuspid closing in behind lower cuspid.



Items of Interest illustration of the same case.

crowns, and other delicate and intricate work, all of which have been performed right along at the same time.

So to my mind, it were actually malpractice to subject small children to the discomforts of plaster impressions, when sufficiently perfect models for all material purposes may be obtained from impressions taken in compound in one-tenth the time.

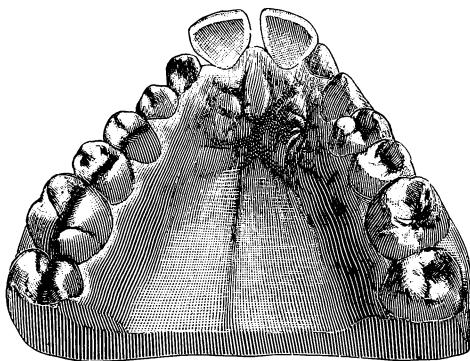
While the models sent you were ordinary ones, and not made with the expectation of being illustrated, how have you, as the editor, fulfilled your obligations towards me, a contributor, in their presentation to your readers?

For my part, I do not hesitate to affirm (and I trust to prove my assertions) that however bad were the models sent you, their illustration was infinitely worse.

For however "wretched" a model is, a skilful engraver (such as we have the right to expect to be employed by the ITEMS OF INTEREST) should be able to represent it faithfully, and should do so, defects and all.

And when, therefore, I send a model showing the malocclusion of the *left* upper cuspid, and an appliance for correcting this defect, and you *publish* an illustration showing (or attempting to show) the *right* side of the model where no such malocclusion exists, then I say have I not some right to question such liberty on your part?

And under such circumstances, you criticise the work on the models!



Wood Cut from Items of Interest.



Half-tone from same model.

I have had a half-tone made of this self-same model, and we will place it side by side with what you presented to your readers as the case in question, and I await your opinion upon the comparison.

Again in Fig. A was shown a case of which the description states that the two centrals required extruding, and B shows the plate itself which was worn to do the work. While this plate was provided with *two screws* the wood cut shows *three*.

Do you consider that would be satisfactory to your contributor?



As another specimen of the class of illustrations in the ITEMS OF INTEREST, I have had a half-tone made from model I, and here present it side by side with your wood cut.

Thereupon, in view of the character of the illustrations you have furnished as exhibited by the foregoing, and of your then pronouncing the models sent you as "wretched," I feel decidedly aggrieved, more especially as my own work has been discredited thereby.

For Dr. Summa in the December ITEMS OF INTEREST, while criticising my models, which models not having been seen by him, his criticism is based upon your wood cuts of course, says, "From a plaster of Paris impression taken according to the Angle method a perfect model can be obtained. Such models need undergo no repair at the point of the engraver's pencil. They can face the photographer's camera with a clear conscience."

I note with surprise that Dr. Angle, the *discoverer* of the method by which to take plaster impressions from which models can be made that "can face the photographer's camera with a clear conscience," should use not less than one hundred and twenty wood cuts to illustrate his own models in his latest work. What has Dr. Summa to say to that? And what will he say of Drs. Kingsley, Ottolengui and others cited whose models could not "face a camera with a clear conscience?"

In the paper under criticism, I first stated as a requirement for making removable appliances:

"A good impression, *which may usually* be taken in compound."

Further down the page I said "perfect impressions," etc. This was an error—the first statement, *good impressions* should have been repeated.

As a matter of fact, which it is evident is amongst the things which Dr. Summa has not yet learned, in cases where teeth lean extensively, *accurate* impressions are not desired, as perfect fitting plates could not be placed in the mouth.

I am confident that it would be a most unusual case that would require a plaster impression for the work in question. The use of plaster for taking all impressions of cases of irregularity could only be advocated by one whose time was of most moderate value, and who had but little regard for his patient's comfort.

Tell me if you can, the advantage of taking a plaster impression for a child seven years old whose upper centrals are erupting so as to occlude within the lower arch? Is there anything at all of special interest in such a case? Do we not have them by the score, and once corrected do we ever refer to the *models*?

To the busy general practitioner to whose lot falls crown and bridge

work, in which perfection is never attained; porcelain work with its perplexing lights and shades ever falling wrongly, and never just to perfection; difficult and tedious gold fillings, approaching perfection, but only approaching; Prosthodontia with all its trials and tribulations, and where perfection is not even expected, much less hoped for; implantation and re-plantation where for once complete success or failure is the result, there being no degree of excellence here; to him I say who has all these different fields for testing his skill and patience, simple cases of Orthodontia intermixed are of minor interest (mark the word minor, for of course they do have a certain amount), and to waste his time which can be otherwise spent to advantage, by inflicting his little victims with the unnecessary discomfort of plaster impressions would be extremely unwise.

There are many things one can do for a patient, but there is one thing one should always do, and that is, to give him the least discomfort possible to attain a given end. At least that is the doctrine of many good men, and I am willing to follow it.

Requesting that you give this the same publicity that you did the editorial in question, I await with interest your views upon the subject.

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### Reply to Dr. Kells.

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By RODRIGUES OTTOLENGUI, M.D.S., New York.

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#### **The Editorial Explained.**

The foregoing letter from Dr. Kells is published in what he would consider justice to himself, and also because it deals with a question which may be discussed with advantage to all of us. At the outset let me say that Dr. Kells is laboring under a delusion. He has taken exception to certain language in an editorial in the September, 1900, issue of *ITEMS OF INTEREST*, saying in one place that his "wretched" models were partly the inspiration of the editorial in question." In this he is entirely mistaken, and consequently all of his beautiful edifice of argument based upon this assumption falls to the ground.

The words to which he objects read as follows: "It is only fair to add that in one or two instances we were compelled to use wood engraving because the condition of the models was so wretched as to preclude photographic reproduction." How Dr. Kells made the words "one or two instances" cover the twenty wood cuts which illustrated his article is hard to understand. But whether the language permits such an inter-

pretation or not, I take pleasure in stating that the models of Dr. Kells were not in my mind at all when writing the sentence. Nor do I see any reason to hide the exact facts as I am sure that the other gentlemen will not be sensitive about the matter.

When I wrote "one or two instances" I was thinking of just two models in particular. One was Fig. 1 of the case reported by Dr. Ernest Walker. The model was necessarily poor because of the condition of the child and, as explained by the author, was only secured at all by tempting the little one to bite into various pieces of wax which she held in her own hands. The other "instance," if I remember rightly, was Fig. 4 of the article by Dr. Gordon White. In sending a contribution which was done at my solicitation, Dr. White apologised for his models explaining that they were made long ago and had since been bruised and battered by knocking around the office. He suggested that it might be as well to throw manuscript and models in the waste basket. I thought the article interesting, however, and personally built on the various parts of missing teeth so that the whole served for the engraver. Photography was out of the question in the case of a model covered with dark shellac varnish and with patches of white plaster showing where the teeth had been repaired.

Again let me say that the words to which Dr. Kells takes exception were not meant as a criticism against any person, not even those who had sent the models described as "wretched," for as we have seen, models may be wretched through no special fault of the contributor. Just above this passage appeared a paragraph criticising some of the models of which we made half-tone reproductions, and the words which have proven objectionable were appended to modify any seeming harshness in that criticism.

Having explained that nothing in the editorial was meant to apply to Dr. Kells, I might rest here did it not seem profitable, in the light of what Dr. Kells has written to pursue the subject, that others of our readers may be enlightened on matters about which Dr. Kells at present has an erroneous impression. The editorial discussed the matter of models from a purely journalistic standpoint, whereas Dr. Kells has written almost exclusively from the standpoint of the dentist, and worse yet, that *bête noir* of the journalist commonly known as "the busy dentist."

Quoting from the editorial, he gives the following—"we may erect the dogma that nothing is better than a half-tone from a perfect model, and nothing worse than the results of the same process from imperfect models." Then he tells us: "We may reasonably assume

**Dr. Kells**  
**Misapprehends.**

under this proposition, that, with a view of furnishing the highest type of illustrations, the editors of the leading dental magazines use the half-tone process when models exhibited are sufficiently perfect for that purpose."

Nothing is more unreasonable, nor farther from the truth than this assumption. In the first place, let it be borne in mind that the half-tone process is much less expensive than wood engraving; and secondly, that, whereas the half-tone must record the model as it is, and generally worse than it is, since defects are accentuated, by wood engraving inaccuracies may be remedied.

What, then, determines the choice? The main object of a picture is to aid the mind of the reader to grasp the meaning of the accompanying words, and the cheaper or more expensive method is often adopted in proportion to the importance of the idea to be conveyed. For example, when reporting contributions to the museum, we use illustrations not because of their assistance to the dentist in his work, but in the hope that by showing what others are giving we may incite the reader to overhaul his own things and forward something. Curious models, therefore, though far from perfect, may be sufficiently well shown by the cheaper half-tone method. In other cases we have used half-tone illustrations because the authors have chosen to send us photographs, the models not having come to us at all, so that except from the photographs we have had no means of knowing whether the models were good or bad. On the other hand, we have not infrequently made wood cuts from fairly good models, because of the common practice of dentists to cover the models with varnish, rendering the half-tone process most unsatisfactory. In other instances we have used wood engraving because only a part of a large model was to be shown, and in some instances because it has been the desire of the authors.

I cannot here enumerate all the reasons that lead up to a choice, for they are many and various; sometimes both methods are utilized and the best result published. The point I wish to make is that Dr. Kells has jumped to a wrong conclusion in supposing from what I wrote that a half-tone indicates that the model was good, and a wood cut that the accompanying model was bad.

While I used the language quoted to the effect that we may erect the dogma that a half-tone from a perfect model would be the best sort of illustration, I also said what has not been quoted by Dr. Kells, that even the best half-tone pictures which we have presented were not from perfect models. In truth, I have never seen a perfect model such as would be required for an absolutely accurate reproduction by half-tone. Consequently, while, as I have said, we may erect the dogma that the

half-tone from the perfect model is the desideratum, we cannot practically apply the rule. Moreover, the statement was made not because we desire to illustrate by the cheaper method, but rather as an incentive for the greater care in making models offered for illustrative purposes, for the better the model, the better the illustration, whether by wood engraving or half-tone..

Thus, laboring under a misapprehension, Dr. Kells has wasted a great deal of time hunting statistics to prove that others besides himself make poor models. I have nothing to say of the others named,

**Dr. Ottolengui's  
Own Work.**

but since he has alluded to some of my own writings I have a reply to offer. In the first place, I have nowhere claimed skill as a model maker, consequently, his statement that I have had no half-tone reproductions from my models has no weight. Next, my articles were in the *Cosmos*, which magazine is not under my editorial control. Presumably the editor chose what he deemed the better way of illustrating my work. He is in error in saying that one of my illustrations was so faulty that I was compelled to correct erroneous impressions gathered therefrom. The misapprehensions were not due to error of the engraver, for though there was a slight mistake, in my second paper on the subject, I declared that the illustration was quite sufficiently accurate. The misapprehension in some quarters was due to a lack of comprehension of the case under discussion, traceable quite as much to the text I presume as to the picture. Others misapprehended because of a preference to do so.

But I have more to say on the subject of my own models. Let me quote one passage from Dr. Kells. He says, in this instance, doing what I never have done, criticising his own models: "I am free to admit that the models sent you were not intended to be specimens of artistic model work. A busy general practitioner cannot possibly waste his time in taking plaster impressions of unimportant cases of malocclusion." Continuing, he tells us that in his opinion it would be almost malpractice to subject small children to plaster impressions, when sufficiently good models can be made in one-tenth the time with modeling compound. He charges me with not having furnished sufficiently good illustrations from models which he himself says were not good and he declares finally: "However 'wretched' a model is, a skilful engraver (such as we have a right to expect to be employed by the ITEMS of INTEREST) should be able to represent it faithfully, and should do so, defects and all."

All of this, I repeat, shows that Dr. Kells speaks from the standpoint of the dentist and not from that of the journalist, but before discussing this let me reply to the last statement. It is true that a good engraver, such as we have, could reproduce models accurately, defects

and all. Dr. Kells says he should do so. I disagree with him. If we are to have the defects, why spend double or treble the money for the wood engraving, when experience teaches that the defects show up particularly well in half-tones? The trouble is that I expect our engraver to correct the defects, and when he fails, it is not because he lacks skill as an engraver, but because he lacks a knowledge of dentistry. But he is learning.

I fail to comprehend how it is malpractice to take impressions of children's mouths in plaster, for even if Dr. Kells can take one with modeling compound more rapidly, which I doubt, he certainly cannot get two or three models from a single impression as I can when I use plaster, and I have used nothing else for ten years or more. Neither will I admit that I have maltreated children.

Next let me say that if Dr. Kells is dissatisfied with wood engraving from models which he admits are not good, he is in a totally different position from that which I occupy in relation to my own published writings. If I decide to publish, I undertake to make my models as adequate for the purpose as possible, and I do not begrudge the time expended thereon. In one of the papers to which he has alluded I furnished drawings for all the illustrations, made at my own expense and under my own supervision. In the others I spend many hours perfecting models, in the manner described by Dr. Pullen in the *Orthodontia* number last year, and previously taught for years by Dr. Kingsley. By this means I undertook to furnish the editor, who published for me, models with which he could, and did obtain illustrations satisfactory to myself. I recommend either of these methods to Dr. Kells for the future, suggesting that he expend as ungrudgingly the necessary time to properly prepare a set of models for publication, as he would when preparing a cavity for a filling. For the latter he will receive remuneration in sordid cash; for the former he will have the thanks of editors and those whom he elects to teach, since all such articles are intended to teach something; something that we think worth imparting. And this, I take it, is work as worthy as money getting.

**Errors  
of the Editor.**

I now come to Dr. Kells's strictures upon my own errors in the publication of his article. I have in theory enunciated the idea, that the fact that Dr. Kells may be too busy to make accurate models is no adequate excuse for his poor models, as he himself calls them; that his being too busy is an explanation but not an excuse, for the critic is entitled to consider work without regard to the manner of its accomplishment.

The same rule holds with myself. If I have erred in illustrating this

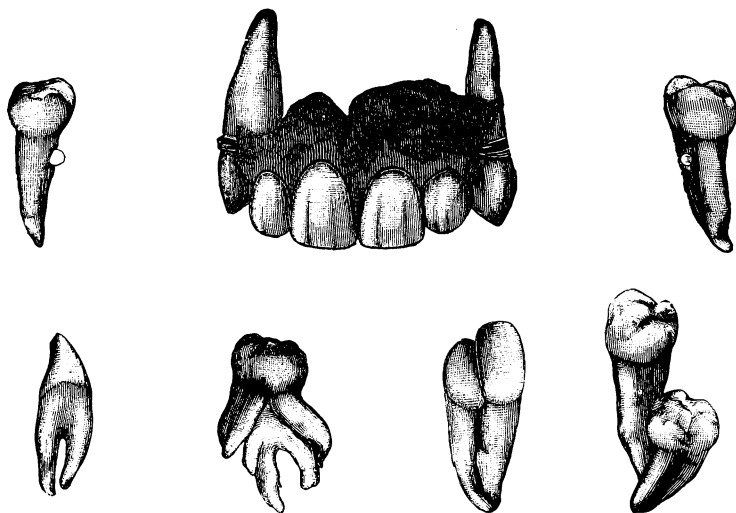
article, no excuse is profferable. There is nothing to do but to offer regrets and an apology. At the same time, Dr. Kells having made his explanation, perhaps in palliation of my own offense he will grant me the same privilege. At the outset I must admit that I cannot be accurate in any statement because since that time I have had six other numbers of the magazine pass through my hands. But as I remember them, the facts are as follows: Dr. Kells kindly furnished the article at my request, and, as an indication of what views he desired of the various models and appliances he sent small photographs, which was very nice of him.

When giving directions to the engraver the photograph for Fig. K was missing. It is probable, therefore, that without the photograph as a guide, he engraved the wrong side of the model. In regard to the plate with three screws instead of two, if there were only two in the model plate, I cannot explain the presence of three in the cut, since the engraving was made from a photograph on the block. Why did I not observe and correct both of these errors? I will explain, it being understood that I am not excusing myself. Like Dr. Kells, I too, am a busy dentist, and by summer time I like to get a breath of fresh air and a view of green fields. In order to be away during August I planned to have the September number completed and ready for the press by August first. The contributions had been promised, but several were so delayed that it was impossible to have everything finished before I left town. Consequently, I was obliged to have proofs of text and illustrations sent to me while on vacation, and I conscientiously gave up a whole day trying to avoid just such errors as are here complained of. But I did not have the models, nor the missing photograph, with which to compare. The other photographs were at hand and I supposed that I took all necessary care. I do recall that errors were found by me in two instances and that new blocks were ordered to be cut. Still I make no excuse but accept the responsibility and regret the misrepresentation of which Dr. Kells complains.

<b>Illustrations by Dr. Kells.</b>	In conclusion, I will say a few words in relation to the illustrations which Dr. Kells himself has furnished. I consider both of them very bad. The first is supposed to show an instanding cuspid, but it would not be difficult to imagine the two teeth shown to one side of it, to be the two central incisors, making the instanding tooth the lateral, the next the cuspid in a normal position and then two bicuspids and part of a molar. I think this illustration would be quite as difficult to comprehend as the one beside it. For if the instanding tooth is a cuspid, then we see beyond no less than three bicuspids; or are there four?
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In any comparison between the wood engraving and the half-tone

of the full denture Dr. Kells's picture suffers. I am glad to have our readers see this well reproduced photograph of his model, for they may judge of the difficulties under which the engraver has labored. He has made a botch of the central incisors, but he has vastly improved on the model in all other directions. He has cleared up the necks of the teeth, where in the half-tone we see every evidence of the result of using modeling compound and removing it from the mouth in one-tenth of the time required for plaster. He has also improved the appearance of the masticating surface of the teeth, while the roof of the mouth is better. No, on



the whole I cannot admit that Dr. Kells has furnished a better illustration than we did, bad as ours was.

Finally, it is a fair question to ask whether we have a good engraver or not? Are our bad illustrations due to his lack of skill or to the poor models from which he is required to make good pictures? I think a fair test will be to examine what he has done when natural teeth were used as models, and the accompanying figures will show whether or not he can copy a human tooth? If the decision is in his favor, his failures from plaster casts must have resulted from the imperfect representations of teeth which they afforded.





## **Retention of Dentures.**

By FRANCIS M. PARKER, D.D.S., Professor Prosthetic Dentistry, College of Dentistry, University of Southern California, Los Angeles, Cal.

That full upper dentures are retained in the mouth by adhesion is admitted by a majority of the profession, or at least by those who have given the subject intelligent consideration. But there cannot be adhesion unless the preliminary steps have been taken, viz., the securing of a correct impression.

Upon the insertion of a full upper denture, with a properly constructed vacuum chamber, or if the operator prefers, a relief chamber, which to all intents and purposes is only a modification of the vacuum chamber, for a few hours, it is held in place both by adhesion and suction or atmospheric pressure. After the plate is worn for some time it is held in place by adhesion, possibly kept partly in place unconsciously by the buccal muscles of the wearer of the denture.

A few years ago my attention was more directly drawn to the theory that artificial plates were retained in position by adhesion, rather than from atmospheric pressure, from there being in our party of excursionists to the top of some of the Sierra Madra Mountains, some who were wearing full upper dentures. I questioned them closely as to whether their plates remained in their mouths firmly and felt comfortable, our elevation at that time being about five thousand feet above sea level. In reply the parties stated that it seemed to them that their plates felt firmer.

Reasoning then that at sea level the atmospheric pressure is about fifteen pounds to the square inch externally, it must be the same internally, or we would feel oppressed at the seashore. On the contrary, we find in healthy persons that they are more or less elated, taking in deep breaths of the fresh sea air so that they may absorb more of the ozone, but we find that our plates are not quite so firm.

Then the external and internal pressure being equalized at sea level, in the same ratio at an elevation of five thousand feet the external pressure is diminished, but the internal pressure is kept up to a large extent, the capillary vessels are filled out and the plate fits more firmly. We also note that at very high altitudes there is ringing in the ears and the nose bleeds.

With this point settled, the question arises, why use the vacuum chamber if adhesion retains the denture? Because in almost all edentulous mouths there is a very hard place about the center, while on either side is generally to be found spongy or soft places. When I wish to make a superior denture fit without any rocking when placed in the mouth, it is my practice to note the hard and soft places after having taken the plaster impression, and scrape the impression where the hard spots appear before pouring the model. For a vegetable base plate a vacuum chamber is made as near the center of the cast as possible by using the regular chamber metal, but in all cases the chamber should be in proportion to the size of the mouth.

There is this to be claimed for the vacuum chamber where resorption has been very great and the mouth has become quite flat, that after the chamber is filled with the tissue, which will be more or less spongy, the adhesion continues, and the chamber acts something like the rugae in keeping the plate from having a lateral motion, which causes it to trip. When I have used the relief chamber or the vacuum chamber, or both, I have had success. Those cases where such measures have not been used have been failures.

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### **Are Vacuum Chambers a Necessity ?**

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By THEO. SIQVELAND, D.D.S., Brooklyn, N. Y.

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Before any satisfactory answer can be given to the above question, it seems absolutely necessary to define the meaning of the words, "vacuum chambers." I regret very much that the editor of the *ITEMS OF INTEREST* did not do this previous to raising the question, as a far

more definite and satisfactory result might then have been obtained in the January issue.

If by a "vacuum chamber" is meant, what formerly was called an "air chamber," then it is a well defined depression, generally in the center of a plate or artificial denture, deep enough to prevent the mucous membrane from coming in contact with the plate at this point, at least for a while.

The original and main object of this contrivance was, I believe, to enable the wearer of the denture to exhaust from this area a little more air than otherwise possible, thereby momentarily increasing the suction. If this be the correct understanding of name and object, then I consider the "vacuum chamber" absolutely unnecessary and wrong in theory as well as in practice.

Should the old theory be right, why make only one-tenth or one-fifth of the plate surface a vacuum when the denture, in spite of this device, often rocks and drops? Why not extend the vacuum over the whole surface of the hard palate at least, thus increasing proportionately, not only the suction, but also the deception and consequent malformation of the patient's mouth?

In using the word "deception," I refer to "The first good impression (mentally) made upon the patient," when air chambers are used, often to disguise poor impressions of the mouth and inferior workmanship.

By malformation I mean the filling up of the vacuum chamber by the soft and even harder tissue of the mouth, increasing in proportion to the quality of the work. Sooner or later these results will reflect discredit both upon practice and theory.

After reading Dr. Land's treatise on this subject some thirteen or fifteen years ago, I realized the incorrectness of the old theory concerning air chambers and broke away from the old rut. In my practice since then, I have only been more and more convinced of the correctness of the "relief method" or theory of capillary adhesion.

By the "relief method," it is not meant to create a vacuum or chamber, visible or invisible, thus separating plate from mucous membrane; but exactly the reverse, to increase the contact of the two surfaces by equalizing the pressure on soft and hard tissue as much as possible and thus creating adhesion. When this is understood and accomplished, the denture will not only stay in place when inserted in the mouth, but become firmer as it settles into position, provided no further absorption of the alveolar ridge takes place.

The *modus operandi* is less important as long as the result is obtained. I prefer, however, to modify the impression while the patient is still in the chair, for comparison and study.

### **Success Without Suction Chambers.**

By DR. J. A. WAAS, Hammononton, N. J.

In answer to your invitation as regards "suction chambers," in your January issue of the *ITEMS OF INTEREST*, I submit the letter given below, which was sent to me by a patient for whom I made two plates with suction chambers, both of which were failures so far as the retention of them in the mouth was concerned, the mouth being very much like Fig. 3 of Dr. L. P. Haskell's article. I made the teeth over the third time, sent them to the patient and received the letter, which speaks for itself.

I have followed Dr. Haskell's directions in four other cases since, and was delighted at the result met with in each case. Although I have always used suction chambers in my plates in the past seventeen years, I assure you I have no further use for them in the future except in very soft palates or where plates have been worn before with suction chambers. "Dr. Waas.

"Dear Sir:—I thought I had better try the teeth for a couple of days before I let you know how they were. They fit splendidly and stay up finely. Can chew most anything."

### **Method of Constructing Full Upper Dentures.**

By DR. D. H. PAYNE, Decatur, Tex.

The recent discussion in *ITEMS OF INTEREST* of the value of vacuum chambers in retention of artificial dentures has revived my interest in a subject on which I spent considerable study before I was enabled to overcome many difficulties in dental prosthesis, by adopting a method which I shall herein briefly describe.

My experience has led me to believe that the most comfortable and satisfactory use of an upper plate depends on these points: Perfect adaptation to the gums; relief from excessive pressure on the hard palate and muscular attachments; slightly increased pressure around the margin of the plate; thin and light as is consistent with strength; and perfect articulation.

To fully outline my methods of obtaining these essential features in a full upper rubber denture, I will begin with my plan of taking the impression.

**Method of  
Taking  
an Impression.**

After selecting a tray of proper size, with a pair of curved plate shears cut away the rim, so that when tried in the mouth it will rest entirely on the gums. (If for a lower case, cut away both labio-buccal and lingual rims). Rebuild the rim with soft wax, warm and press in place in the mouth. Remove tray, and trim wax when necessary. Warm and replace in the mouth, and repeat this until the labial and buccal muscles have perfect freedom without tending to dislodge the tray. Take impression with plaster, or equal parts plaster and impression compound. Then draw a line across the palatine portion, which shall indicate the posterior edge of the plate. With a sharp knife, make a shallow incision about one-tenth of an inch anterior to this line, extending each side to near edge of depressions corresponding to the tuberosities. Trim away a thin layer of the palatine portion from this incision forward to near the gum portion, trimming rather deeper over the "hard palatine ridge." Varnish with thin collodion, and dust this surface with talcum, brushing away all loose powder with a large camel's hair brush.

**Treatment of the  
Model.**

The model made from this impression will have a hard, smooth and almost polished surface. Take a round, pointed instrument and make a shallow groove around the model on a line which shall indicate the labial and buccal margins of the plate, taking care not to encroach on the muscular attachments and mucous membrane connecting the gum with lip and cheek.

Mould articulating plate of modeling compound, leaving the smooth, beaded edge as you would on the plate. Fit in the mouth, and trim or build out until lips have proper contour. Build down to lip line with hard, tough wax, add thin layer of soft wax, complete articulation and mark mesial line. Fit articulating plate to model, and trim upper edge of the model on a line with labial surface of the plate. Attach to this edge with varnish a strip of writing or asbestos paper extending to the canine prominence each side. Trim even with lip line and cut through mesial line. This will perfectly represent the mucous membrane of the lip, and can be turned up out of the way when desired.

When the teeth are set up, the bisected edges should just meet to give lip the proper contour.

Before packing, varnish model with collodion and the plaster will not adhere to the plate as when sandarach is used, and plate will have a smoother and more polished surface.

The posterior margin of the plate will sometimes, though seldom, rest too hard on the hard palate. This can be more easily remedied by polishing down than if the impression had been cut away at this point, which latter would be purely guesswork. A well finished plate will have no thick, rough or sharp edges.

A faithful observance of these points enables me to make a plate as thin as desired, that will not rock over the hard palate, that will not be dislodged by action of the labial and buccal muscles, and one in which the whole plate is a "suction chamber."

I use the term "suction chamber" for want of a better, since between the gum and a perfectly adapted plate there is no air or vacuum.

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### **Amalgam Joint in Difficult Case of Crowning.**

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By C. E. BELLCHAMBER, D.M.D., Effingham, Ill.

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A lady presented herself at my office to have an artificial crown inserted. The tooth was an upper central incisor. The natural tooth crown had decayed and broken off, leaving the root end of tooth in a rough state. The lady objected to any procedure except crowning.

Upon investigating the root of tooth, I found it to be fairly solid in the jaw. The pulp being still alive, I removed the same by use of cocaine and pressure. I found that there was a great deal of softened dentine. Cutting this away until a solid surface was reached, it caused the root surface to be very uneven.

The patient, having lost the right lateral incisor, had been wearing an upper partial denture for years, and the pressure upon the gum tissue from the artificial tooth had caused the gum to recede so that the distal surface of the tooth was an eighth of an inch shorter than that of the mesial surface, after the mesial surface was ground down sufficiently.

Preparing the canal for the reception of the pin of the crown, I selected a Logan crown. After articulating the abutting surfaces as well as case permitted, there was still a space between the crown and root on the distal surface of about one-sixteenth of an inch. Upon the face of the root, commencing at the mesial surface, I extended an undercut in the dentine conforming to the shape of the tooth until it almost formed a circle, ending near the distal surface. I then fitted a wooden plug in root canal and proceeded to pack amalgam around plug and in the undercut, building up the end of tooth to the required form extending

only on the mesial half of the tooth. After allowing amalgam to set, I removed the wooden plug from the canal and adjusted crown to see if it articulated properly. Then removing crown, I mixed my cement and filled canal first, then placed small quantity around pin of crown and placed the crown in position. After the cement had set sufficiently, I removed the surplus, cutting it all away until I reached the amalgam previously inserted. Mixing some quick setting amalgam, I inserted it under the crown until it came in contact with the first amalgam in the undercut, packing it firmly to place until the vacant space between the end of root and crown was entirely built out. Allowing amalgam to harden, it was polished even with the tooth, thus giving a firm abutment for crown to rest on.

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### **Bridge Re-Cemented Without Removal.**

By DR. E. S. LAWTON, St. Paul, Minn.

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A lady presented herself three months ago wearing a bridge, one end of which, consisting of a crown attached to the second right superior molar, had become loose through the gradual disintegration of the cement, while the remaining fastenings remained intact.

I at once decided to re-cement this crown, if possible, without removing the bridge, and proceeded as follows: First, I drilled a hole through the cap of the crown to exactly fit the point of the syringe to be used, when I introduced a stream of warm water, which was continued until everything was washed out clean. I next injected hot air, until both tooth and crown were dry and warm, when the crown was pulled down from the tooth as far as it would come, and the cement forced in with a Siqueland cement syringe until it appeared at the gum margin, when the crown was immediately pressed into place and the operation completed.

I requested the lady to report to me at the end of three months that I might again examine the case after that lapse of time. She did so, and I found everything in perfect condition.

I do not claim any new method for this operation; in fact, I believe I have a dim recollection of seeing it described before when an ordinary abscess syringe was used to introduce the cement, but I do wish to point out to some one who may not have thought of it before that, with proper instruments, an operation may be reasonably easy and certain in its results which, without such help, is, at best, difficult and unsatisfactory.

The hole in the crown was filled with gold, and was apparently as good as ever.



## How to Run a Dental Society.

By CHARLES A. MEEKER, D.D.S., Newark, N. J.

*Read before the New Jersey Southern Dental Society, Camden, December 19, 1900.*

Mr. President and Members of the New Jersey Southern Dental Society. How nice that name sounds. At last it is an accomplished fact. In the southern part of our state we have a young, strong and sturdy society.

It gives me the greatest pleasure to come to Camden tonight to meet the members, because I have, I believe, nearly as great an interest in your society, and its growth towards a name in the future, as you have yourselves.

In the past I have written letters urging the formation of a society that would take in the southern part of our state, and bring in the practicing dentists, but the time was not ripe. When Dr. Irwin first wrote me about this proposed formation, I said to myself, the men and the time are at hand, and I must do my share towards introducing the infant to the dental world; and I think your chairman of the executive committee can testify that I gave him all the help and encouragement that letters could give. If there was truth in psychic force and suggestive measures, he received aid telepathically. Now that you are an integral part of the system of dental fraternities of this state, I congratulate you and wish you success. Like the goddess "Isis" of the Egyptian dynasties, you have propitiated the same, by taking into membership the first feminine practitioner who was made a member of the New Jersey Dental Society.

When Dr. Irwin first proposed that I should write a paper, I cogitated over the matter in my mind, and it resolved itself into the fact, that what experience I had in running a dental society might help the new infant along, better than other subjects on dentistry that would come from abler men, whom your hustling executive committee could easily obtain.



**Secret  
of  
Society Success.**

How to run a dental society could be summed up in one word, and that word would be *work*. As liberty is the price of eternal vigilance, so is the life of a dental society the result of continual work. It would be better no doubt to enlarge on this word and see what kind of work produces the best results.

A number of professional men actuated by a noble idea in raising the standard of their profession, improving their minds, enlarging their scope of knowledge on operative and technical methods, and incidentally bringing before the lay public the dignity of their profession, meet together and following the usual procedure, elect officers, and the society is launched.

Members of dental societies are no different from the same members of other societies, and they must be continually kept at work, and the work must necessarily be of an interesting character to keep the interest of the other members always active.

When I was first elected secretary of the New Jersey State Society in 1875, I was quite an enthusiastic youth with an optimistic temperament which, thank God, I still possess. I made up my mind I would attend all dental society meetings possible in order to learn of their methods and see wherein I could help and benefit my own. In all my travels for many years, and witnessing the proceedings of the various society meetings, observing their methods carefully and weighing the results from their membership, I can truthfully say I saw none better than our own state meetings at Asbury Park, and our local society, the C. D. A., with the exception of the Second District Society of the State of New York, which closely approach our own methods.

I would eliminate the reading of papers of any great scientific knowledge, that may have been promulgated first from other societies, or those whose members have large pecuniary means and at unusual periods may be able to expend prohibitive sums for an important paper on a new subject. For instance, I hear that one gentleman's expenses last winter, in coming before the Odontological Society reached \$500; the expense beyond this sum in the matter of obtaining an audience of dentists from all our large cities must in itself have been a large item. I would measure the success of any society by its meetings year in and year out, the general attendance and the enthusiasm and interest which the members may seem to have, and not by sporadically large meetings, when representative men come to read papers.

**Rules for  
Society  
Management.**

In twenty-five years I believe the success in the methods of conducting our business and the success of our society have been due to three cardinal unwritten laws. The first is very democratic, and reminds you of a portion of the Constitution of the United

States. It is that relating to the highest honor in office that the society can confer, the presidency.

We do not say in our societies, "Is he a good parliamentarian, is he a dignified man, is he a cultured man, is he a college man, can he fill the position?" If he possesses none of these requisites, he is elected just the same and the members by their consideration and helpfulness intuitively make his path clear. This position is open to every member, and every member knows that if he desires it he can have it. That the president may occupy that position but for one year is an unwritten law.

You will notice each year in the annual programme the names of new men on the lists of the many committees that are all formed to do a good work in our society. I will say, parenthetically, to those who do not know, and think these names are placed there in a haphazard manner, that they are entirely mistaken. At each annual meeting of the officers each and every name is the result of much discussion; every member who has attended the annual meeting, if he has taken any interest, discussed a paper, evinced any unusual interest in any clinic or exhibit, or shown by any sign any peculiar ability, is at once a marked man, no matter whether he has just been elected or not; that man's name goes down on one of the committees for the ensuing year. It may be he is chairman of that committee; if so, if he is an energetic member, he does something for enlarging or improving that particular committee, and the next year he gets another committee, and it is only a question of time when he becomes a member of the executive committee, and he serves on that until he obtains the highest honor the society can bestow on him, that of president. And I tell you, gentlemen, it is an honor, for wherever I travel New Jersey is known in the dental world, both here and abroad. On the Continent this summer I found that out personally.

I have heard some members say, "I do not like the committee I am on, it is no good, I can obtain no recognition." Gentlemen, it is not the subject that makes it prominent, it is the men on the committee, more especially the chairman.

I would be willing to lay a wager that were I chairman of any committee in the State Society—except the legislative—and I had it two years, in the last year I would make it one of great prominence and would obtain plenty of discussion on the subject matter of its report. If you stop to think a minute, this is simply doing on a similar scale what you would do in your professional business, supposing you wished to enlarge your practice in gold filling, in prosthetic work, or in putting in porcelain inlays; or the merchant in taking hold of a new department in his daily business and hastening it forward into new prominence.

You might say this society work is time, money and labor thrown

away. I contend it is not. Everything done for dentistry that brings it before the public in a legitimate manner only enhances the dignity of your own position and your own profession before the general public and you receive a share of the benefits as a member of one of the learned professions.

The people hold the same estimate of yourself as you do, all else being equal—and if you by your work and energy raise the standard in every possible way, they will also. You cannot expect the people to raise you on a pedestal higher than you do yourself. Dr. William H. Atkinson died a poor man, yet by his work he accomplished more to raise the dignity of dentistry than any other one man in my memory. He made it possible for a dentist to obtain an adequate price for his work; he said if one picture was sold for \$100,000, and another equally well painted was sold for \$100, that a tooth that was filled for \$10 ought to be worth \$100, and when he charged \$100 to Banker Turner for two gold fillings he elevated the reputation of American dentistry throughout the country.

I have pointed out to you one of the cardinal rules and unwritten laws of our state society, that I feel has been in a measure one of our means of success, and, furthermore, I know of no dental society in the country that follows the same procedure, unless it is our local C. D. A., and I hope the New Jersey Southern Dental Society will follow in the footsteps of the older association.

**Importance  
of Clinics.**

Now I will speak of another method in our society that I feel has gained for us both members and guests in attendance yearly, and one that gives our meetings an enviable name for a small state that num-

bers a little over four hundred registered dentists.

The principal part of the work we perform in gaining a livelihood is the restoration, by operative or prosthetic methods, of the natural organs. There are published in the United States twenty-six journals devoted to dentistry, that range in subscription price from 50 cents to \$2.50 per year. A dentist can sit in his library or office and read from any one of these journals the latest and best scientific papers of the professional world from its foremost men; papers on the anatomy, pathology, histology, bacteriology and microscopy of the teeth, and understand in a great measure the value of the paper. But when it comes to a paper on operative technique, the object lesson of a clinic is needed that the visual conception of what is done may be impressed on the brain and the tyro of a mechanical dentist appreciates it, and returns home to his office just so much the better man for what he has witnessed. Our society has always held out the welcome hand to the man who is willing to show what he can do in the operating chair for the benefit of his fellow men.

Our society and the committees in charge do their utmost each year to have a goodly number of clinics, and each and every one of you present can do his share whenever he sees or hears of a dentist doing something new or which strikes him as original; make yourself a committee of one to obtain his name and address, and ask him if he is willing to clinic before the New Jersey Society, and then acquaint one of the members of the Clinic Committee. Do not refuse yourself, if asked, because I believe every dentist performs some one thing differently or better than some other brother. Apropos of this, I will say that if Dr. Sutphen should ask—I don't say he will—but if he should ask Dr. Catherine Platt to clinic this July, Dr. Platt will occupy a unique position and receive a meed of praise that will astonish her, and which I feel would make her proud of her position.

In regard to the third unwritten law, you all know that there are numbers of dentists who rarely get to the dental depots to see the new mechanical appliances; there are any number of dental supply houses and inventors, but every dental house does not handle or show every new appliance, and the dentist when he calls at his nearest or most convenient depot looks only at the new things which that one house can show. We believe in inviting every supply house and every inventor to come to us and make a museum and show on one floor everything new and useful, or supposed to be useful to our profession. We treat every one fairly and equally, no consideration is shown to one more than to another; the most humble and the most wealthy are treated alike, and they know it. They come, and say they are better treated by us than by any other society in the United States.

What is the consequence of this policy?

The dentists from the cross-roads, from the towns and cities of this state, from New York, Connecticut, Delaware, Pennsylvania, and other states, say, "Well, I will wait before I buy until I see the Jersey exhibit, then I will look around and see everything that is new." The best and most flattering assurance of our success is that the close observer can see that other states follow in our footsteps, for the sincerest flattery is imitation. I cannot but speak of our programmes, and I can truthfully say I have yet to see their equal, artistically or typographically, in this or any other country.



## **Central Dental Association of Northern New Jersey, January, 1901.**

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A regular meeting of the Central Dental Association, of Northern New Jersey, was held at Davis's Parlors, Newark, N. J., on Monday, January 21, 1901.

An exceedingly interesting programme had been arranged with the result that the attendance was much larger than the usual. The paper of the evening had been prepared by Dr. James G. Palmer, of New York, sufficiently long in advance so that copies of it could be sent to prominent men who from their special studies were most capable of discussing the question from a scientific standpoint.

Ordinarily, the reading of a number of papers, prepared by men who are not present, results unsatisfactorily. This, however, is true of the usual custom of having all such papers read by the secretary, the audience soon becoming tired of the monotony of one voice, however good it may be. In this instance, where the essayists were not present, their contributions were read by different individuals, each selected because of his ability to read distinctly; consequently this very important discussion was received with rapt attention, and on the whole the meeting proved to be one of the best in the history of the society.

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### **Is the Dental Pulp Necessary in the Teeth of the Adult?**

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By JAMES G. PALMER, D.D.S., New York.

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In the abstract possibly not. Some go even to the extent of saying that it is advantageous to remove the pulp, after a certain indefinite period in life, dispensing with it entirely. That which may be advantageous for some special cases does not seem to the writer to be indicated as a general practice.

The pulp has a definite function to perform. Is a period in human existence reached when it is not merely unnecessary, but actually useless, or, perhaps, even a menace? Evidently some think so, if their utterances have been understood.

What is this period of adult life when the pulp is no longer necessary? How is the time to be determined, if indeed it can be? The condition of the pulp in the teeth of one individual, at, say forty years of age, is entirely different from that of another individual of the same age. Perhaps, in time the use of the X-ray will be a sure guide, but not at present. There is no question but that we are groping in the dark to a very great extent.

Your essayist must be permitted to speak entirely from a clinical standpoint, not from a scientific point of view, for personal knowledge of this matter has been gained by his daily work at the chair. There are other gentlemen who thoroughly understand this matter from a scientific and a physiological point of view, who will speak after me and enlighten us on those points.

<b>Indications for Pulp Removal.</b>	No one denies that there are occasions when devitalization of the pulp in sound teeth, sound as far as caries is concerned, is advisable. That is not always confined to adult life, however. Even in the teeth of quite young patients there may arise occasions for such devitalization. In the teeth of the adult there may be extreme sensitiveness, and there may be conditions of disease which can be more successfully combated if the pulp be removed.
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In cases of extreme sensitiveness when the gum has receded considerably, which does not yield to antacid treatment, or to applications of cocaine, carbolic acid and zinc chloride, very often the removal of the pulp gives not merely immediate and complete relief from pain, but actually prolongs the usefulness of the tooth. One reason is especially prominent. The average patient does not brush, nor cleanse such sensitive teeth thoroughly; it hurts too much. When the tooth is free from pain, the cleansing is much more thorough and, of necessity, the life of the tooth is prolonged.

In conditions of disease—pyorrhea alveolaris—the testimony of those who are looked upon as authorities is distinctly in favor of removal of the pulp in every case. My own limited experience in the treatment of such disease is in favor of the removal of the pulp. Sometimes there seems to be an increased sensitiveness in such diseased teeth interfering largely with local treatment which is remedied by the removal of the pulp. There may be other good reasons for

devitalization even in sound teeth, but these two appeal to me most and will suffice for the argument.

**Arguments** As opposed to the general removal of the pulp in adult life—it does not prevent decay.

**Against** A dead tooth is not as strong as a live one.

**Pulp Removal.** The lines of cleavage are more marked, and if there is an extra leverage upon the tooth, it is liable to fracture, to crumble away, as a live tooth will rarely do.

There is a certain network of strength—call it reticulum or what you will—which binds the entire tooth together. It is a bond of union as well as of sympathy.

That this is continually replenished with life-giving energies by the pulp seems to me to be beyond question. While the tooth is undoubtedly nourished by and through the pericementum, that is not sufficient for the entire tooth, else the friability referred to would not occur. The Almighty placed the pulp in a tooth for a specific purpose. Does that specific purpose end with some certain period more or less indefinite in human existence? I do not believe it.

The deciduous tooth is absorbed; the alveolus is absorbed; the pulp recedes; but does it as a rule become obliterated? When the occlusion is good; when the grinding surface has not worn away; does not the pulp, after a certain age, remain almost *in statu quo*? Is it not in those cases where there has been much abrasion and undue strain that anything approaching obliteration is found? Those who view this matter from a purely theoretical standpoint may say otherwise, but my experience at the chair confirms this statement.

In the six anterior teeth, to the average dentist, there is, or should be, little difficulty in removing the pulp, thoroughly sterilizing and filling the canal; but in all the other teeth, bicuspid and molars, where fine tortuous canals are found, the possibility of trouble is greatly enhanced.

I am speaking now of the average general practitioner, not of the adept, the specialist, the few who are always successful and can fill the minutest canal positively to its foramen, and no further, and who are always absolutely sure they have removed every vestige of the pulp. The average dentist is not sure in every case, and therein lies a great objection in my mind to the indiscriminate removal of the pulp.

This is neither the time nor place to discuss how to remove the pulp nor how to fill the canals; that may come later. It is a certainty that at present, methods are so dissimilar and success often such a mooted question, that other results than absolute and continued

comfort are obtained, despite the best and most conscientious endeavor of the individual operator. We have not reached the millennium and there are many of us, good conscientious men, who would like to do things, but we are not able. It is not that we have not the courage of our convictions, but we do not know how. We are willing to admit that, and to learn. But methods must change. We must in all cases be as positive of entire removal and absolute sterility and complete stoppage as we are positive of other things, before we can consider the work a success. We must have more light on this subject—the condition of the tooth after it is devitalized—than we have at present, despite the statement of a prominent member of our profession before a recent meeting of the First District Dental Society of New York, that he was sorry anyone should bring before a body of dentists such a subject as the treatment and filling of devitalized teeth. His idea, publicly stated, was that we are beyond this, we know all about it and are no longer students in this matter.

Besides the possible difficulties arising from incomplete removal of the pulp, the discoloration of the teeth when the pulp has been removed, which I do not believe can always be obviated, is to be taken into consideration. I am assuming that some of the gentlemen who have been outspoken on this matter, intended to create the impression that they believe in the indiscriminate removal of the pulp in adult life without regard to surroundings. If they did not intend to do so, it is a certainty that that impression has been produced. It is upon this assumption that this paper is presented.

Often one is so imbued with his own knowledge, or his own idea, that he does not pay proper attention to detail, and says that which conveys to his hearers much more than may be intended.

A paper was read before the New York Institute of Stomatology last winter, by Dr. Flanagan, entitled "Dentistry is to the Eye That Sees it, as to That Eye it Seems to be." This title may be applied very pertinently to what I have just said.

A conversation some time ago with one of those who has been understood to be quite in favor of this indiscriminate removal of the pulp, brought out the fact that he did not mean indiscriminate, but was so wrapped up in the beauties of it as he viewed it at the moment, that he did not see how far he was going, and so made more emphatic statements than he had intended. It is such statements that mislead men, particularly the younger practitioners, who are ever ready to take up a new idea when brought forward by a prominent man.

A good many years ago a man came out of the West with the startling statement that he would bore a hole in the jaw, set a tooth



therein and have that tooth become firm and serviceable. We doubted. A prominent editor of one of our Eastern dental journals even stated that it was an utter impossibility because it was contrary to all physiological laws. Nevertheless it is accomplished every day.

In like manner the general removal of the pulp, possibly the indiscriminate removal, may be performed with less damage when all practitioners have been trained to far more delicate work than the majority of us are capable of at present, and will not make the mistake of destroying pulp after pulp when looking for some disturbance in the teeth which has an obscure origin. I question if there are many present tonight who have not had such experiences.

In many such cases the patient suffers in such a way that one is reminded of the story that is told of an Englishman who attending a spiritualistic seance was supposed to be put in communication with his wife. He asked if that was 'Arriet and if she was 'appy. Receiving an affirmative answer, he said, "Are you 'appier than you were with me, 'Arriet?" Her answer was, "Yes, 'Arry." "Where are you, 'Arriet?" he asked. "In 'ell, 'Arry."

While the pulp may or may not be in 'ell, the patient often suffers the torments of the damned.

No, gentlemen, I do not like this removal of the pulp upon the slightest provocation, and I do most emphatically believe that the dental pulp is necessary to the well-being of the teeth of the adult, except in rare cases.

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### **Limitations in Connection With Pulp Extirpation.**

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By M. L. RHEIN, M.D., D.D.S., New York.

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When I was requested to discuss this subject, I was left under the impression that Dr. Palmer would present a paper this evening in opposition to one entitled, "Rational Treatment of the Dental Pulp," which I had the honor to present before this Association in March, 1898. Your printed programme for this evening distinctly states that Dr. Palmer will read a paper in the affirmative on the subject, "Is the Dental Pulp Necessary in the Teeth of the Adult?" Dr. Palmer's paper was sent to me some weeks ago that I might prepare myself

for a reply to what I supposed would be arguments in favor of conserving the pulp. Judge of my surprise when I found the paper of this evening far more radical in favoring the removal of the pulps in adult teeth than anything I have ever said on this subject. My position is certainly an anomalous one in this respect. In conversation with the author, he informed me that the portion of his remarks which I now shall quote was intended to refer especially to me. He says, "I am assuming that some of the gentlemen who have been outspoken on this matter, intended to create the impression that they belonged in the indiscriminate removal of the pulp in adult teeth without regard to surroundings. If they did not intend to do so, it is a certainty that that impression has been produced. It is upon this assumption that this paper is presented."

From the time when my paper read here in March, 1898, appeared in *ITEMS OF INTEREST*, I have been repeatedly startled by reading in the journals, statements strongly condemning not the views which I enunciated on that occasion, but teachings which the several gentlemen insisted upon as having come from my lips, even though they were entirely at variance with what I said or wrote on the subject. The essayist this evening intimated after he discovered from our conversation that I disclaimed advocating the indiscriminate removal of pulps that I did not pay proper attention to detail and said that which conveyed more to my hearers than I intended. I can only imagine that Dr. Palmer has taken his cue from what my numerous critics have said, for I am certain if he had read the article printed in *ITEMS OF INTEREST* that he would never have fallen into this error. No one could possibly misinterpret me as recommending an indiscriminate removal of the pulp after reading the summarizing of the article where I say, "In adults, however, after the age of twenty-five, an exposed pulp should always be extirpated as speedily as possible. In all cases, even where there is no exposure, the slightest apprehension that the dentist may have of his inability to preserve the life of the pulp, is a sufficient warrant for its removal. Lastly, in many cases of pyorrhea alveolaris, the removal of the pulp is frequently of the greatest therapeutic value."

I limit the removal of unexposed pulps to the cases wherein the judgment of the dentist learns the death of the pulp. In speaking of its use in pyorrhea alveolaris, I say plainly that it has a great value in many cases. This is a distinct limitation, for I am convinced that it would be of no value if not of detriment in some cases, as I point out when lecturing on the pathological condition. In this respect I am entirely opposed to the radical views of the author where he states that he

favors the removal of the pulp in all cases of pyorrhea alveolaris. Returning now to the body of my paper on page 414 of Vol. XX of ITEMS OF INTEREST will be found the following sentence with the word *every* in italics: "It is far from my intent to say that in *every* large cavity the pulp should be removed, but there is a great number of cases where the experienced judgment of the dentist teaches him the danger of inserting of filling over such a pulp." The emphasizing of the word *every* in this sentence is sufficient indication of my earnest effort to make as plain as the English vernacular would permit my disapproval of indiscriminate pulp removal. The object of this paper read in '98 was, first, to make a plea to the profession against the universal attempt of some men to preserve all adult pulps and, secondly, to indicate that in certain pathological conditions the removal of the pulp may be of great benefit. The very title of my paper, "Rational Treatment of the Dental Pulp," is opposed to the idea of extreme action in any direction. I had sincerely hoped for an attack on this article from some of the men who favor conserving the pulp in every and all conditions. No reply on this basis has so far been made.

Another variety of cases in which the author broadly advocates pulp removal is contrary to my clinical experience in handling these cases. I refer to the cases of extreme sensitiveness at or near the gum margin which does not yield to antacid treatment, etc. As a rule the preparation of a proper cavity and the insertion of a correct filling cures this trouble.

<b>Conditions Demanding Pulp Removal.</b>	While it is true the author advocates the removal of the pulp in cases where I am forced to disagree with him, yet he devotes another part of his paper to arguments against pulp removal. In this respect, sight must never be lost of the fact that no teeth in which pulp removal is indicated are in a normally healthy condition. If they were there would never be any indication for such radical treatment. When, however, certain pathological disturbances are set up, we are confronted, not by physiological conditions which require no human interference, but by deviations from the normal state due to disease. Under such circumstances the pulp frequently becomes useless and often is a menace to the preservation of the tooth itself. In contradistinction to the author, I must affirm that in such cases the X-ray is of incalculable service in accurately determining the anatomy of the parts and thus furnishing one of the strongest guides for determining the necessity for or against pulp removal. There are two conditions of pyorrhea alveolaris where pulp
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removal is indicated: One where the X-ray clearly shows absorption of the end of root in progress, or the filling in of the canal with dentine. The other is where the pericementum is being feebly nourished and it is desirable to divert the pulp circulation to the pericementum.

In this same Volume XX of *ITEMS OF INTEREST* there is on page 322 a photograph of one of Dr. J. Leon Williams's sections through a lower jaw showing the end of forming tooth and medullary space. In this specimen the appearance of the blood vessels entering from the medullary canal and giving off branches to the pulp and pericementum is most distinct. (For reproduced illustration see Plate 1, in this issue.) On page 400 of the same volume is a diagram by Dr. H. H. Burchard showing the manner of distribution of blood supply to the pulp and pericementum. I have had a rough sketch of the diagram made which shows how the removal of the blood supply to the pulp will force this portion of the circulation into the anastomosing vessels supplying the pericementum. (See Plate 2.) At the same time it shows how, by means of this pericemental circulation dentinal nutrition proceeds. In fact in many of these pathological conditions where the canal is being filled in with a solid mass of secondary dentine, the only method of dentinal nutrition is through this same pericemental circulation irrespective of whether the pulp has been removed or not; for it is impossible for circulation to pass through this hard mass of eburnated dentine filling up the pulp canal.

These then are our logical reasons for removing the pulp in certain forms of pyorrhea alveolaris. In speaking of the objections to pulp removal the essayist lays great stress upon his opinion that only a limited few of our profession are capable of properly cleansing the canals of the posterior teeth. Although the essayist spoke not only of cleansing but also of filling these canals, I have purposely limited my remarks to the absolute cleansing of them because if this is properly done, the method of filling is of little consequence as long as the filling reaches the end of the root. I take issue with him as to this being beyond the capability of the average practitioner. With as much truth we might say that the proper insertion of an ordinary gold filling is beyond the skill of the average practitioner. No student is fit to receive his license to practice dentistry who fails to demonstrate his capability to do this work. If the essayist is correct in his deductions, the fault lies at the door of the dental college in turning out imperfectly prepared dentists. There is no time this evening to go at length into this line of discussion; but it may not be amiss to hold up to well deserved ridicule the occasional assertion that because in

a few rare cases it has been impossible to completely cleanse all of the canals, pulps should never be removed for fear of finding one of these rare cases. Although men may declare that they are not so very rare, we emphatically say that the percentage of such cases is so small that they may be compared to mile posts in one's career, which can always be remembered. With as much logic the use of all our powerful drugs might be interdicted for fear that at some time a drug may be administered to some one possessing a strong idiosyncrasy against it. Laws for everything are made for the great majority, and the exceptions only serve to make more manifest their correctness.

The late publication of Dr. Harlan's investigations in digesting dead pulp tissue gives great hope of permanently removing from our discussions the statement that dead pulp tissue cannot be cared for in the most irregular canal.

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### **Value of the Dental Pulp in Adult Life.**

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By J. LEON WILLIAMS, D.D.S., L.D.S., London, Eng.

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I am glad that the leisure of a short holiday affords me an opportunity of complying with the request of your executive committee to give you a short communication on the subject of Dr. Palmer's paper, "Is the Dental Pulp a Necessity in Adult Life?"

I must conclude that the title of this paper does not quite correctly convey the desire you have in mind as to the facts and opinions you wish to draw out in the discussion. The many thousands of pulpless teeth, which have been doing their possessors good service for five, ten or even fifteen years give at once a vast, accumulated proof that the pulp is not a necessity. But I apprehend that what you really wish to determine is the relation or, if possible, the exact value of the dental pulp in adult life, and this is a very interesting subject for discussion.

<b>Function of the Dental Pulp.</b>	The dental pulp, as you are all aware, is primarily the formative organ of the dentine, and after its work as a formative organ is completed, it remains as the nutritive organ of this tissue. Now, the value of a nutrient supply is in direct proportion
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to the rapidity of all those physico-chemical integrating and disintegrating processes, which we group under the general term "nutrition." Mass and molecular movement, as exhibited in the muscular and nervous systems, is the one chief characteristic of life, and these

movements, resulting as they do in rapid waste, demand a rapid and free nutrient supply. But the teeth, being mere passive organs of resistance for the purpose of mastication, have need for only so much nutrition as is necessary to maintain a healthy relation to the organism of which they are a part. Muscles and nerves must have free and rapid nutrition in order to perform their proper and essential functions.

It is perfectly safe to say that the principal tissues of the teeth, the enamel and the dentine, need no nutrient supply in order to perfectly perform their essential functions, and it is practically certain that no physiological changes take place in enamel even in teeth containing healthy pulps. If it takes five years to effect a complete change in the structure of bone of average density, it must require fifty years to completely renew the structure of dentine. Nutrition of this sort dwindles to the vanishing point of importance. The best possible proof of the non-importance of the dental pulp in adult life is found in the ever present tendency to obliteration by calcification with advancing years.

But from the practical point of view there are important reasons why it is desirable to maintain a healthy pulp in a tooth. A healthy pulp is necessary to the perfect color of the tooth, and it keeps the tooth free from the danger of periosteal inflammation at the root end. The great practical problem, therefore, is one involving knowledge and judgment as to when an effort should be made to maintain the pulp alive, or as to when it is wise to remove it. For, keep always in mind the important fact that the considerations which lead us to an attempt to maintain a living pulp in a tooth, when we are reasonably certain that our efforts will be successful, become reasons for the removal of a pulp if we are in doubt as to the success of our efforts. My own opinion is that at present far too many efforts are made, among the most skilful dentists, for the preservation of the pulp, with the inevitable result that, eventually, the very conditions are brought about by the death of the pulp which they sought to prevent in their efforts to keep it alive.

**When to  
Extirpate  
the Pulp.**

The removal of a dental pulp, concerning the continued health of which we have any doubt, prior to the death and decomposition of that pulp, is, in my judgment, a far wiser practice than an effort to keep it alive. My reason for the above statement is that if the pulp be removed before its complete death and decomposition, and the pulp canal properly treated and filled, we are reasonably certain that the tooth thus treated will continue a serviceable organ for many years, whereas if the pulp be allowed to die and

decompose, this dead, septic material, some portion of which is almost certain to remain in the dental canaliculi, and in the extreme end of the root beyond our power to effect complete removal, greatly endangering the future prospects of the tooth.

The question, then, as I have already remarked, becomes one of knowledge and judgment as to when the pulp should be removed, or an effort made to preserve it alive. As the years go by and my experience gets ripier, I find myself less and less inclined to attempt to save a pulp if it has become the seat of inflammation. A certain proportion of pulps which have been inflamed are, if carefully treated, no doubt saved alive for longer or shorter periods, but I am convinced that there is a large balance of benefit to our patients in that method of practice which takes no chances, or the fewest possible chances.

<b>Advantages of Pulp Removal.</b>	There is another phase of this subject which should receive careful and thorough investigation. I refer to the possibility of very beneficial results growing out of the removal of the pulp in cases of loosening of the teeth from advancing destruction
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of the investing membrane from whatever cause or causes. More than twenty years ago, I pointed out the probability of an increased blood supply to the pericementum being one of the results of the removal of the pulp. Some of you will no doubt remember several photographic illustrations which I published in *ITEMS OF INTEREST* a few years ago, in which I showed that both nerves and blood vessels from the same trunk entered the pulp and the pericementum. This fact, to a certain extent, confirmed my earlier opinion, and more recently, Dr. Rhein, of New York, has claimed valuable practical results from the removal of pulps in loosening teeth.

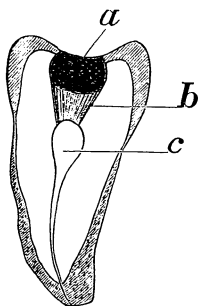
<b>Danger From Infected Dentine.</b>	In conclusion let me call your attention to one more phase of this subject to which very little attention has been given. I believe the most dangerous class of cases of dental decay which we treat, especially with reference to the saving or destruction
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of the pulp, is not that in which there has been irritation and inflammation of the pulp, but where these conditions are absent although there is but a thin layer of dentine over the pulp. This thin layer of dentine may even seem to be comparatively hard and resistant to our cutting instruments, but probably in every instance it is the seat of bacterial infection, and after the filling of the tooth this infection is extended to and involves the pulp and, in a far larger number of cases than is commonly supposed, leads to the death of the pulp.

Probably a large proportion of the cases of death of the pulp, which

are usually attributed to thermal shock, are caused by bacterial infection. Arkovy is the only investigator, so far as I know, who has done any systematic work on this point. He claims to have discovered and isolated and has named a micro-organism to which he attributes gangrene and death of the pulp. He further claims that this organism possesses the power of penetrating a very considerable thickness of dentine.

An interesting case in practice, which represents a class of cases not uncommon, bearing on the points under consideration, has recently occurred in my own practice. A lady, in fairly good health, called to consult me about severe pain of a neuralgic character in the right side



of the face and head from which she had been suffering severely for several days. The pain seemed to be felt throughout the entire region of the distribution of the fifth pair of nerves on the right side. None of the teeth were sensitive to percussion, and not especially so to heat or cold. There was some feeling of heat and considerable swelling in the region of the parotid gland. By very careful attention, the patient seemed able to determine that the more severe attacks of pain especially flashed about the posterior part of the right, upper jaw. This tended to confirm my opinion that the trouble had its origin in the right, upper wisdom tooth, which contained a small crown filling that had been in place several years. I diagnosed a dead or dying pulp in this tooth, and suggested the removal of the filling and the opening up of the pulp cavity. But the patient had lost several nights' sleep and was not disposed to delay the treatment, which offered hope of the most immediate relief. The tooth was extracted and split open, and the condition revealed can best be explained by the aid of the accompanying sketch. Fig. 1, *a*, represents the amalgam filling, which perfectly filled a cavity that penetrated hardly more than half the dis-



tance from the grinding surface to the pulp chamber. There was no marked softening of the dentine beneath the filling; but a well marked area, *b*, shaped like a section of a cone, passed from the bottom of the cavity to *c*, the pulp chamber. I have not yet had time to examine this particular case microscopically, but I have examined many similar ones, and there is no doubt but that this area shown at *b* represents enlargement of the dentinal tubuli by the action of micro-organisms. These micro-organisms had doubtless penetrated the dentine and infected and destroyed the pulp. The pulp was not completely disorganized, but presented a jelly-like, almost colorless mass floating in a thin fluid and giving off an offensive odor. There is nothing especially unique about the clinical aspects of the case, and I have described them especially to call attention to what is, doubtless, the cause of the trouble, namely, bacterial infection. This infection had even penetrated to the parotid gland, causing heat and swelling. I believe that the idea that these more or less familiar cases present phenomena resulting from bacterial infection is not very extensively entertained by the dental profession as a whole.

The bearing of this case upon the subject under consideration is positive and direct. We must thoroughly understand the possibilities of bacterial infection before we can have that "knowledge and experience" of which I have spoken, which shall enable us to do the best thing with reference to the salvation or destruction and removal of the pulp.

My conclusions, based upon clinical experience, and, to some extent, a scientific study of the subject, are:

1st. That more systematic and scientific treatment should be adopted for the preservation of the pulp in cases where no special treatment whatever is now the general rule. I refer to those cases in which there has been no inflammation of the pulp, but in which a considerable thickness of infected dentine is left between the bottom of the cavity and the pulp.

2nd. That a more consistent and persistent method of treatment should be adopted for the complete removal of the pulp in all cases which the aforementioned "knowledge and experience" suggest as doubtful.

## Limited Functions of the Dental Pulp.

By I. NORMAN BROOMELL, D.D.S., Philadelphia, Pa.

In considering Dr. Palmer's paper, the first and only field for argument lies solely in the title of the essay, "Is the Dental Pulp Necessary in the Teeth of the Adult?"

The question of the removal of the pulp for certain specified purposes, for reasons which all acknowledge to be the only correct practice, does not enter into the subject. The essay appeals to me in this manner: does a fully developed adult tooth undergo a structural or a physical change, which works to its disadvantage, by the death and complete removal of its pulp? To argue that the removal of the pulp from an otherwise normal tooth is in any way advantageous, is absurd, and to claim that the presence of the pulp in the fully developed tooth is a necessity, is contrary to good reasoning, as amply demonstrated by every-day practice.

I use and emphasize the words "fully developed" as being of the utmost importance in the question under consideration. That there is a time when the various organs and structures of the body become fully developed is a truism, without doubt, and that such a condition in the teeth should be arrived at, is only following that which is observed in other parts of the economy. I shall, therefore, use this as my principal point in argument.

<p><b>When Function of the Pulp is Complete.</b></p>	<p>The essayist asks the question, "What is the period of adult life when the pulp is no longer necessary?" "How is this period to be determined, if indeed it can be?" he adds.</p>
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To this the reply may be given with as much certainty as though the question were asked of other organs. Who can tell the exact period at which the human heart has obtained its full growth, or the lungs their full capacity? The brain continues to develop as years of employment are added to it, until finally its capacity is limited because its growth has been finished. Now, what is the period at which all this takes place? Is it not at that time characterized as maturity, the time of full development, the period of complete growth? This then, the time of life recognized as the period of complete growth in other organs, should see the teeth in their finished condition. They are then, if ever, sufficiently strong to withstand any condition brought about by the performance of their functions.

Another clause in the paper, one which seems rather difficult to comprehend, is that which says, "The condition of the pulp in the teeth in one individual, at say forty years of age, is entirely different from that of another individual at the same age." In what manner do they differ? Certainly the normal pulp at this age in one individual cannot differ histologically, any more than do the gingival tissues, these being in their intimate structures exactly alike. If by the "condition" of the pulp, is meant that in some they are healthy, and in others more or less diseased, that is another matter, but not one that bears upon the question at issue.

In the creation of an animal organism, it is safe to assume that some of the cells and tissues, particularly those which are solely generative in character, serve a creative function up to a certain period, and after this they are inactive or possibly atrophy, while at the same time the life of the resultant structure continues. That the function of the dental pulp is largely generative cannot be denied, the dentinification continuing with more or less regularity throughout the life of the organ.

This creative function is carried on much more energetically in working teeth than in those comparatively idle, this activity stimulating the constructive cells to greater energy. What is the result of this? The thickness of the dentine is increased, and the size of the pulp correspondingly decreased, but this is a change especially provided for the betterment of the tooth; it is simply the downfall of the pulp by the calcifications of certain proportions of its peripheral substance. It is an effort upon the part of Nature to do exactly what the dentist attempts to do when he removes the pulp and fills up a portion of the pulp cavity with some of the substances used for that purpose.

Function governs organization, and when a tooth has calcified sufficiently to perform all the work required of it, when the body of dentine is of sufficient thickness to withstand any force which may with judgment be applied to it, the economy calls for nothing more; the pulp has outlived its usefulness, generation, and from this time on it gradually degenerates, leaving behind its calcified remains in a body of dentine possessing histological characteristics peculiar to itself.

How common a thing it is to find in persons of advanced years, teeth in which the pulp cavity has become entirely obliterated by calcification, yet who has recorded a discoloration, an alveolar abscess or other diseased conditions, commonly attributed to loss of pulp vitality, in connection with such teeth? If such have been found, they are certainly very rare. The reason for this may be plainly understood. The pulp with its supposed essential nutritive function is gone, but

## ITEMS OF INTEREST

the space it once occupied is not partly taken up by gold, gutta percha or one of the phosphates, but in place of these, the space previously existing as the pulp cavity is completely filled with a congenial structure by the master hand of Nature.

This reasoning brings us to believe, therefore, that pulpless adult teeth suffer, if at all, not from the fact that they are deprived of this connective tissue mass, but from a failure on the part of the operator to thoroughly remove and completely fill the space formerly occupied by it; this once accomplished as thoroughly as when the change is brought about physiologically, no tooth will suffer the least iota, structurally or functionally.

To further discuss the subject, let us consider the peridental membrane, for in this we have resident all that is of importance to the longevity of the fully developed tooth, be it pulpless or otherwise. In this tissue reside support, nutrition, sensation and defense, and all of these are furnished the tooth as long as this membrane is normal, and the function of the tooth goes on regardless of the pulp.

The dentine and enamel of a tooth after the period of maturity, may best be considered mechanically; they do not come into contact with other tissues of the body as do nearly all other organs and parts of organs. In cementum, however, that tissue so closely allied to true bone, with its lacuni and canaliculi, the vital medium between the non-vital and the mechanical, in this intervening structure, life continued is essential.

In conclusion let it be clearly understood,

First. That the indiscriminate destruction of the dental pulp is not asked for; far from it, this can serve no good purpose.

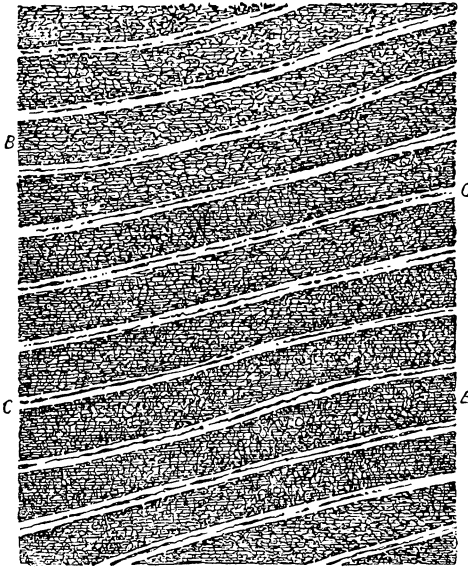
Second. As long as the present imperfect methods of filling the pulp cavities are in vogue, the loss of the pulp in a certain percentage of cases will result more or less disastrously.

Third. Replace the pulps of mature teeth in those cases which call for its removal, with such substances and by such a method as will insure completeness somewhat approaching the natural process described in the body of this argument, and the longevity of the organ will not be affected.

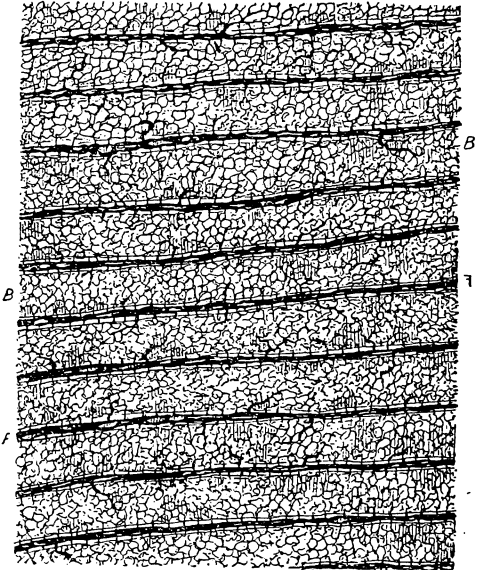
## The Dental Pulp Advantageous.

By JOHN I. HART, D.D.S., New York.

I consider that the essayist is correct in many of his conclusions, but extremely unfortunate in the title of his paper, because we all concede that the dental pulp is not a necessity to an adult tooth; but is it an advantage?



Dentine of a dead temporary tooth, stained with chloride of gold, decalcified with acetic acid.  $\times 1200$ . C, C, canaliculi, holding shriveled dentinal fibers; B, B, basis-substance, holding a shriveled reticulum.

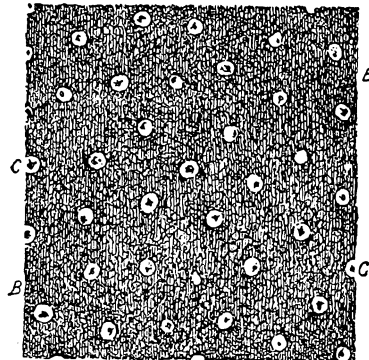


Main mass of dentine of a temporary tooth, stained with chloride of gold, decalcified with acetic acid.  $\times 1200$ . F, F, dentinal fibers, partly vacuolated; B, B, basis-substance, traversed by a reticulum.

Yes, of immense advantage, and in my judgment it should only be removed when it is the cause of direct or reflex irritations, and not because it may, in the future, become the seat of morbid phenomena. The *reductio ad absurdum* argument that pulps should be removed because they may give trouble would also deprive many of us of our liver and kidneys, and our organs of speech should certainly be removed, because many of us have lived to regret some of our extravagant expressions of only a few years ago.

How the pendulum does swing. It makes me dizzy to contemplate it. Why, we can scan the literature in vain to find an admission that capping of pulps to the last degree is not highly successful, and here we are combating the other extreme—of destruction—not only on sight, but merely on suspicion.

The author speaks of the destruction of pulps in "every case of pyorrhea," and the argument I have heard from a few gentlemen favoring this treatment is, that by cutting off the blood supply to the pulp, more is furnished to the pericementum. Temporarily, yes; permanently, no; and only in certain classes of cases do I find this treatment advantageous, but in the majority of instances I find the quality of the blood impaired rather than the quantity increased.



Dentine of a dead temporary tooth. Transverse section of canaliculi, stained with chloride of gold, decalcified with acetic acid.  $\times 1200$ . C, C, dentinal canaliculi, holding shriveled dentinal fibers; B, B, basis-substance, containing a shriveled, indistinct reticulum.

I do not revere the pulp simply because it is a part of the human economy, but because of the function it performs, and when your essayist asserted that its removal weakens the crown of a tooth, he stated a fact known to each one present. Conceding that many instances arise where its removal is absolutely necessary (and here is where our ability as diagnosticians is tested to the utmost) I maintain that its removal, because the tooth is fully formed and requires it no more, is most fallacious. No less an authority than Dr. Louis Jack (in the American Text-Book of Operative Dentistry, page 294), says:

"As the dental pulp by its supply of nutritive pabulum maintains the vitality of the dentine, and increases the resisting power of the tooth, it is important when this organ becomes exposed to agencies which threaten its

destruction, to attempt its preservation when the conditions are favorable to that object. A further reason for maintaining the vitality of the dentine is that when the pulp becomes devitalized, the loss of cohesive force, which occurs as a consequence, leads sooner or later to the fracture and early loss of the tooth, the final result being delayed in proportion to the inherent strength of the tooth, and the period of life at which devitalization takes place," although in my estimation this risk may be modified by shortening the walls and protecting the same with some resisting filling material.

I pass around some figures showing the histological difference between dentine penetrated by fibers from a vital pulp, and also the conditions prevailing where the pulp was devitalized. The reason for this loss of strength is obvious.

I regret that the author has clouded the discussion by suggesting the difficulties met with in filling certain root canals, and the possible discoloration of enamel following the removal of some pulps. These are considerations that do not properly enter into the question under discussion. For various reasons, owing to its environment, and lack of lymphatics, pulps act differently, under irritation, to other tissues, and must sometimes be destroyed, notably those that are exposed "naturally," those that become the seat of chronic pulpitis, as well as under some of the circumstances mentioned by your essayist. Inasmuch as we accomplish this successfully, in a vast majority of instances, I do not think that the technique of the operation, or the difficulty of obliterating the resulting space, an adverse argument, but the usefulness of the tooth, in my judgment, is necessarily impaired. Consequently I deprecate the removal of the dental pulp from an adult tooth merely because it has completed part of its function, the formation of the dentine.

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## **The Dental Pulp Not Necessary in Adult Life.**

By CHARLES L. HUNGERFORD, D.D S., Kansas City, Mo.

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Is the dental pulp necessary in adult life? Certainly not; but it is unfortunate that it becomes necessary to add that this assertion does not mean that an attempt should be made to remove the pulp of every tooth that comes under your care. Trees are not necessary to roads, but we do not cut down all the trees in the forest when we build a road through it, but only the ones that stand in our way; so we only remove the pulps of those teeth that stand in the way of expedient dental operations.

Three years ago this assertion raised a storm of opposition. Tonight, the opposition is practically on our side, not only as admitted in the opening words of your essayist (Dr. Palmer), but his entire paper admits its frequent necessity, and he can find only one reason against the destruction of the pulp, viz., it leaves the tooth more friable. Well, so does the preparation of a cavity, but this friability is confined mostly to the crown and does not affect its vital connection with the jaw.

Dr. Palmer is very much like Ovid, "He sees and approves the better way, though he champions the worst."

There is little doubt in my mind that thoughtful, observing dentists throughout the country have for years been in accord with the removal of dental pulps whenever they stood in the way of successfully supplying bridges, crowns or other treatment for the comfort or appearance of the teeth, only they lacked the courage to make public the assertion. If all dentists had the liberality and acumen of Dr. Palmer, there would be small chance of being misunderstood, nor would every statement have to be hedged around with innumerable provisos.

Almost every dentist who has had any experience will acknowledge that a pulpless tooth that has been well taken care of, will remain serviceable and comfortable for life. Why, then, we ask, should a patient who has lost a central incisor be asked to put up with some kind of a plate, or other frail or bungling contrivance when, by the destruction of the pulps in the sound adjacent teeth, a permanent bridge can be made that will defy detection even by the patient himself?

With this query goes, of necessity, the assertion that a successful bridge cannot be placed on teeth with live pulps. By successful, I mean one that combines strength, appearance, cleanliness and comfort.

The question for tonight is not the extreme difficulty attending this operation, nor of the skill required. It is solely as to whether the tooth's vital connection with the economy will be impaired or not by the removal of the pulp, and should be a question of physiology, not of expediency. I am almost ashamed to reiterate the statements I have so often given to support my theory that the vital connection of the tooth with the economy does not depend upon the pulp, but briefly they are as follows:

After the removal of the enamel, dentine and  
**First.** pulp, there is no impairment of the functions of the remaining dental tissues, viz., the cement, periosteum or alveolar process, whereas, if these tissues were interdependent in the same way as the glandular system, the destruction of one would mean the impairment of all. The blood supply to the vascular or pulmonary system is a fair illustration of this principle. Even true bone is not seriously impaired by the removal of its medullary arteries and nerves.



**Second.**

The dental follicle, having grown enough dentine to give stability, has performed all the physiological function of which it is capable, and any further functioning of the remains of this follicle, after the typical limits of the dentine are reached, is of an abnormal character, as shown by microscopical examinations of secondary dentine, pulp nodules, etc., and such further functioning is followed by disintegration and pain.

**Third.**

I would call your attention to the fact that the physiological functioning of the pulp depends upon a layer of cells covering its periphery; I mean the odontoblasts. Let this layer of cells once have its integrity broken, as broken it must be in all cases of pulp exposure, and there would be no chance for repair except by inflammatory growths which, considering its position, would mean self destruction.

I do not kill every pulp I get a whack at. I only wish to convince you that the destruction of the pulp does not impair the physiological relationship of the tooth with the jaw; that its more frequent practice would be to the greater comfort of your patients, and that no disastrous results should follow the work. The expediency of the operation must depend entirely on the individual skill and judgment of the operator.

I send you my most cordial greetings and a happy outcome to your deliberations. May we all reach the terrace of enlightenment.

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## **The Dental Pulp Necessary in the Teeth of the Adult.**

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By R. R. ANDREWS, A.M., D.D.S., Cambridge, Mass.

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The question "Is the Dental Pulp Necessary in the Teeth of the Adult?" is somewhat unique to any one who has given serious attention to the histological study of the human dentine. And yet the question is not a recent one; it has been discussed before. The wonderful network of anastomosing fibrils found in the dentine and the pulp, which is their source of nervous and vascular supply, certainly seems to me to be there for a permanent and vital purpose. Has there ever been sufficient accumulated data to prove that the abnormal condition this question infers—that is, a set of teeth with extirpated pulps—is as desirable as a set of teeth with healthy living pulps? In other words, are thirty-two pulpless teeth as

functionally normal as thirty-two teeth would be in which the pulps were alive and healthy? If so, we must infer that the living tissue in the tooth, with its pulp, plays no important part in the health, beauty, and preservation of the adult organs. Now it is a matter of fact, known to all of us, that the dental pulp with its network of living tissue *does* play a very important part concerning their health, beauty, and preservation; and resists in a measure, by reason of its vital action, the inroads of infection.

**Vital Resistance  
of  
Dentine.**

In my own investigation, I have found evidences that the dentine possesses the power of making the effort to protect itself from wear and infection not only in the teeth of the young, but on the grinding surfaces of the teeth of the aged, where the surfaces have been worn sometimes beyond the line of the original pulp cavity. This resistant action is one important point which should make the dental pulp seem necessary in the teeth of the adult. For as life advances, the grinding surfaces are sometimes worn away to the level of the gum; yet these teeth rarely decay. The surface which has undergone the change is darker in color than normal dentine, and by some may be taken for decay. But so far from being affected in this way, it is no longer liable to decay, except under very unfavorable circumstances. A tooth in this condition usually remains free from decay during life.

In making sections of these teeth, and studying them under the microscope, I have found that the canals opening upon the abraded surface are filled with small, bright, glistening, globular bodies, which have the appearance of being calco-spherites of lime. On the surface nearest exposure, the canals seem wholly closed by this substance. Some investigators think that these never calcify, that they are but fat globules, caused by the breaking down of the dental fibrils. But whatever they are, they certainly are there, and they do preserve the teeth from further decay. We find the same appearance in teeth that are eroded. It is my experience, that most of the teeth of healthy, robust persons retain their pulps in a healthy, active and vascular condition throughout life—and it was meant that they should. Secondary dentine is sometimes formed by the pulp as a protection, when it is irritated by the fracture of the tooth or by the thinning of the walls of the pulp cavity through excessive wear. There can be but little doubt that the pulp reacts and struggles against the invasion of infecting organisms, renders the progress of infection slower, and in favorable cases, arrests decay altogether.

We must admit that there are thousands of pulpless, treated teeth, that are doing excellent service. We must also admit that there are hundreds, equally as carefully treated, that have failed. We have all had this experience. Under certain pathological conditions, when the pulp is ap-

proached by invasion of organisms, when there are tissue lesions antagonistic to the health of the pericemental tissue, the extirpation of the pulp is the only proper practice to employ. In very many cases, I believe it is not employed as often as it should be. It is even proper to destroy the pulp of a healthy, live tooth, under certain conditions. But can any one rightfully assert that this pulpless tooth, filled with the best possible care, is in every way equally as perfect, as its wholly living and healthy mate? A wise provision of nature has supplied living fibrils from the pericemental membrane to and into the cementum, and when the work of extirpation of the pulp and its subsequent treatment and filling is rightfully performed, the operation, because of this living structure, may be eminently successful, and such a tooth may last for years. But in this tooth, the main mass of its organic structure is dead and but partly removed, and the tooth is thus liable to become opaque and discolored; the absence of a nourishing fluid, and the breaking up of the fibrilli probably account for this. There can be little attempt by the limited life the tooth still has, to resist the inroads of infection, or to give it normal color. Then, when the general vitality is lowered by constitutional disturbances, and the secretions become perverted, these pulpless teeth are usually the first to give pericemental trouble, and to break down. This condition is in part due to methods in vogue for devitalizing the dental pulp by cauterizing and tissue destroying pastes and drugs, which sometimes continue their deleterious effect beyond the apical foramen.

Many operators think that the use of arsenious acid for devitalizing the pulp is sure, sooner or later, to cause pericemental trouble. We must admit that this trouble takes place in many cases where we think we have given careful attention to every detail. This condition could be minimized by a strictly surgical removal, under the influence of some such obtundent as cocaine. It is wholly impossible to tell from any microscopical appearances just when the tooth pulp and the dentinal fibers have ended their functional activity; it is a question whether they ever do in healthy teeth. Adult life may end this action in cases of lowered vitality, but it is equally certain that it is active in vigorous and healthy old age; there are many evidences of it.

Believing as I do that a live healthy tooth is better than a pulpless one, no matter how carefully filled, and in the light of what evidence I have given you, strengthened by years of histological investigation, I must assert that I firmly believe that the dentinal pulp is necessary for the best possible conditions of the teeth in adult life; and I believe that we should strive to so conduct our practice that there should be the least possible need for its death and extirpation.

## Communications.

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**Dr. G. U. Black,**  
**Chicago.**

As the question is put I could not take the affirmative. If the wording of the question be so changed as to read, Is the dental pulp a necessity to the highest usefulness and to the greatest safety of the tooth in adult life, I could not take the negative. I am of the opinion that the pulp of a tooth should never be destroyed except where conditions present which seriously threaten its life, or render its death in the near future certain.

I may say, however, that the importance of the pulp of the tooth diminishes in proportion to the age of the person, but that its influence over the health of the tooth and its effectiveness in mastication never ceases. Many teeth from which the pulps are removed do good and effective service, and continue to do so for a long series of years, but they are not as effective nor as safe as to the health of their membranes as teeth with living healthy pulps. Or in other words, I would say that any tooth from which the pulp is removed is seriously injured, and yet not so seriously injured that it may not be expected to do reasonable service.

I have made some study of this with the knathodynamometer by trying the effective biting force of pulpless teeth and teeth with living pulps in the same mouth and have uniformly found that no matter how perfect their health seemed their membranes were notably weaker than the membranes of neighboring teeth with living pulps.

Extreme care should be taken to save the life of pulps in the teeth of young people; especially before the age of twenty, for two prominent reasons. First, the smaller the apical foramen the more effective the root filling, and the better prospect for reasonable strength of the membranes, and continued health. Second, after the death of the pulp more or less diminution of the strength of the tooth, particularly of the dentine, is gradually occurring, which in the event of a long life seriously menaces the usefulness of the tooth.

Much more study should be given to the development of effective means of capping exposed pulps when this occurs in children.

Intelligent manipulation evidently has much to do in making a pulpless tooth useful and lasting.  
**Dr. W. H. Campbell,**  
**Brooklyn.**

It is also evident that good results are often attained when scientific manipulation is unknown to the operator. I take my own mouth as a representative case.

A right superior first molar was made pulpless and roots filled with gold, by a young beginner in dentistry about thirty-six years ago. With the exception of about an hour's discomfort, which occurred after reaching Chicago during the World's Fair, presumably by being at an open car window the previous day, it has been perfectly comfortable up to the present time and apparently is in as good a condition as ever. Some years later, this same dentist, presumably having gained more knowledge and experience, attempted the same treatment upon my first right inferior molar; that one, and also the second molar adjoining, operated upon by a friendly colleague of years experience and of supposed much learning, were years ago numbered with the past, their places being filled by a useful as well as ornamental gold bridge.

About three years ago I had a superior left central made pulpless (the canal in this instance being filled with gutta percha), so skillfully and intelligently by Dr. Le Roy, of New York, that, up to this present time, not one moment's discomfort has been experienced, proving to my mind that it is possible to have useful pulpless teeth.

In the discussion of scientific subjects, precision is necessary. As the question of the evening is far from precise, there can, of course, be no accurate discussion. "Is the living dental pulp necessary?" can be paralleled by, are two legs necessary?

It is evident that they are not necessary to life, nor to locomotion, nor dancing, as certain instances are known in which a man skates and dances, even though both his legs had been amputated. But it is not necessary to skate or dance; it is not absolutely necessary to walk.

If the intent of the question be, honestly to ask whether the living dental pulp is of value, that question can easily be answered in the affirmative.

All writers of recognized ability, beginning with Dr. Black as the most recent, and going backwards, acknowledge that the loss of the dental pulp brings in its train of sequences, brittleness, discoloration, and generally eventual abscess and loss, owing to the impossibility of sufficiently accurate manipulation in many of the minute roots of molar teeth to insure the absolute removal of all remnants of dead pulp, and the sealing of the pulp canals with some indestructible substance, clear to and not beyond the apex of the root.

The loss of the pulp even, in view of the aforementioned difficulties attending its treatment, and the impossibility of being sure in all cases that the operation will be successful, is much less serious than the loss of the tooth; hence it is better to lose the pulp than the tooth, and it is good surgery to undertake the removal of the pulp rather than

the tooth. But it is bad surgery to unnecessarily remove any living tissue that can be preserved.

In view of the failures that we all have seen arising from attempts to remove pulps and fill their places with something else, it is bad teaching for a body like this to countenance the unnecessary performance of an operation which can have but a certain percentage of success at the best.

It is no new thing for a fad to be started in the medical world, and even in our limited field, many an ambitious youth has thought, as Voltaire expressed himself, that had he been present at the work of the creation, he could have improved on the present plan. But he who studies to conserve and preserve the natural organs in their highest efficiency, and for the longest possible time, is the one who will reap the gratitude of the future.

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### Letter from Dr. S. G. Perry.

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My Dear DR. MEEKER:

Dr. Bertholf, of Yonkers, just called me up on the 'phone to ask about a paper I am to read before your society Monday evening. I fell on the floor in a fit, this being the first intimation I have of any such expectation!

I referred to the notice of your meeting (which, owing to the pressure of my work, I had not read), and there found that I am announced to discuss the paper of the evening! I now remember that I was asked to take part in the discussion, but if I consented, it must have been in my sleep! If I had written during my waking moments, I should have remembered it, and been on hand prepared to do what was expected of me—for it is a part of my religion to do as I agree. If I was careless and did not reply at all (and so let it be assumed that I would take part), then blame me for that, but for nothing more. I cannot find time now to contribute anything to the discussion, and I cannot possibly be present, owing to an engagement I have unwittingly made for that evening.

However, not much time is needed to say all I have to say on the subject; in fact, I can jot it down while my patient is rinsing her mouth. If the living pulp is not necessary, what did God Almighty make it for? Why did He endow it with the instinct of the mason, and teach it the use of the trowel and supply it with dentine bricks and mortar, and impel it to build better than it knew? When adult life is

reached, however, and its temple has been finished, it can be punched and "pizened" and pulled out of its "Old Cabin Home," and the parlor and kitchen and vegetable germ cellar filled with any old antiseptic, indestructible thing, and no harm will be done. So I am on one side of the question in youth, and on t'other in old age.

My patient snaps her watch and asks if there is sickness in the family, and if I am writing for the doctor? I answer, "No. I am simply rebuking the Jersey Lightning Society!" She replies, "I will excuse you, and I think my husband who is the President of the Temperance League, will not object to paying ten dollars an hour for your time in such a good cause!"

I try to be truthful, but if I had said I was writing a scientific article, I fear I might have been myself converted into a pulp—for her husband is an athlete. In that event, I would have been treated and removed—in accordance with the traditions of the Lightning Society. To sum up, then, I think a dead pulp is "no good," and in old age, a living one is no better. Yours in haste,

S. G. PERRY.

New York, Jan. 19, 1901.

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### General Discussion.

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In the first place it has seemed to me, as to  
**Dr. Gillette.** many others, that the title of the paper has not quite expressed what we all have in our minds when we consider the subject; the title would lead us to compare pulpless teeth with absolutely sound teeth. The point is not that, but whether it is better that a tooth should be a pulpless tooth or that it should be a tooth, with a possibly, or probably diseased pulp—quite a different matter.

I will not enlarge on my personal opinion, because the personal equation would better be eliminated.

One other point which I had thought of was this: How much of the friableness and weakness which the essayist recognizes in the pulpless teeth is due to the removal of the pulp, and how much of it is due to the mechanical destruction of the tooth necessary to get that pulp away, and to the destruction of dentine from decay? To put it another way: How much weaker would a lower molar tooth be with a large approximal cavity, and the pulp removed, than the same tooth with the pulp alive but very much receded, and this sort of an impossible cavity cut into it, that is, a cavity of about the same proportions that

would be cut if you were actually going to take that pulp away? I assume that the pulp has receded as far as you ever see a pulp, which is sometimes you know almost to the bifurcation of the roots. It seems to me, as I think of it, that if we could imagine that condition, I should expect to see the side of that tooth split off as quickly as if the pulp had been removed.

It seems to me it is very largely a question of mechanics, and I must say that I sometimes destroy a pulp because I have an intuition that that pulp is not going to be comfortable, and if there is anything that I dread, it is to have a patient come back for whom I have filled a cavity and find that the pulp has died, and pericementitis has set in. I think I would rather destroy a few pulps unnecessarily, and take the chance of the teeth being weakened than take the chance in an equal number of cases of pericementitis, possibly abscess, and particularly in the lower molars.

Some time ago I was standing at Herald Square, as it is called, where the great *New York Herald* is printed. About 100,000 copies of the *New York Herald* are printed and folded ready for distribution by the automatic printing machine every hour. I was interested as you or anyone else would be in seeing that wonderful machine doing what is practically almost impossible for human hands to do. While thinking of that tonight, and thinking of this discussion, which is a remarkable one—some of the ablest men in the country participating,—it seemed to me that there is but one side to this question: That if the great Architect of the universe saw it wise in making us—for we are but a machine, though one that far surpasses the automatic machine at Herald Square, or any other machine that can be invented by the human brain—if He thought it wise to implant in this wonderful machine—calling ourselves simply a machine—the provision that our teeth should be furnished with a pulp, it seems to have settled the question beyond all doubt, and that it is a wise provision of nature that teeth should have pulps.

One point that has been mentioned several times tonight, has reference to the friability of teeth from which pulps have been removed. I wish to take exception there. I doubt very much if a healthy tooth, from which a pulp is aseptically removed, is, the next moment, any more friable than it was the moment before the extirpation of the pulp. But, unfortunately, in the past, a great many pulps have been removed in anything but an aseptic manner, and the great majority of such pulpless teeth are friable because of septic conditions following the re-



removal of the pulp. Hesitating to say anything more against the unfortunate title which has already been so frequently attacked, the real question before us is not as to the removal of a living pulp from a healthy tooth in order to improve on what the Maker put there, but, as Dr. Gillette has said, it is a question whether or not to leave in that tooth a pulp of doubtful character, or under circumstances which make the long continuance of the health and life of that pulp questionable. In many cases I think the future is more benefited if the pulp be taken out while it is yet in a condition where it can be removed aseptically, and replaced by an aseptic substitute, than it would be to leave the pulp in, and take the chances of its death. I believe that the teeth in which we leave doubtful pulps more often become friable, and the patient return with a piece of the tooth broken off, than those in which we remove the pulp in an aseptic manner, replacing it with an aseptic substance.

I want to take just a little exception to one or  
**Dr. Palmer.** two remarks of Dr. Rhein. I did not mean to convey the impression that certain statements of mine applied only and directly to Dr. Rhein. There are others who have been interested in this matter, and whose utterances have led others than myself to believe that they meant greater destruction of pulps than Dr. Rhein tonight is willing to admit. I have heard one such gentleman from Boston make such remarks; I cannot quote him verbatim, but it was to the effect that there is no tooth in adult life that he would not rather have without the pulp. I am not willing to go upon record as saying that that is exactly what he said; but that was distinctly the impression given by this gentleman, and I had also the impression that Dr. Rhein had himself made more emphatic statements concerning indiscriminate removal of pulps than he has been tonight willing to admit.

I notice also that there is a difference of opinion between Dr. Rhein and Dr. Hart, Dr. Rhein being supported by Dr. Williams, and one other gentleman, in regard to the advantages accruing upon removing the pulp in a case similar to that upon the diagram of Dr. Williams, by reason of the increased blood supply to the pericementum; if I understood Dr. Hart, he disagreed with Dr. Rhein in that particular. I do not know that I can do anything more than to say that I am under obligations to the gentlemen who have so kindly taken part in this discussion, and have helped to make it interesting.

## Southern Dental Society of New Jersey.

### Discussion of Dr. Meeker's Paper.

Several years ago when I was just starting in the profession I remember going up to Long Branch to attend the meeting of the state society. That was the first acquaintance I had with Dr. Meeker and he has always had a welcoming smile ever since, whenever I attend one of these meetings, and I think if we had one Dr. Meeker in our society we would be sure of success.

I hope that we will be able to follow out the lines laid down in this paper which has been so admirably presented to us. I feel like one who is desirous of entering into the work of raising this society, as this paper points to the true way of success.

I think all organizations should have a leader. I think this was clearly emphasized in the recent political campaign. The Republicans had a Mark Hanna, and the Democratic organizations wished they had had a Mark Hanna. We have one leader in our society, and when the younger men, like myself, are placed at the helm, it is a great satisfaction to be able to go to that man when we have developed in our minds some great plan, for when he says "that was tried in Dr. So and So's time and failed," we are quite ready to abandon the idea. Then at another time we consult him and he says, "It was tried at one time with fair success and I believe with a little work it could be accomplished, and be of advantage to the society." Then we go ahead.

You cannot all be leaders, but you can all bring your individuality into play in your work at the chair remembering your society so that when you come to your meeting you can have at least one thought that you want to give your brother dentists or one thing you want to learn. This you can do in your local society, but when it comes to development at large, there is no place for you like the New Jersey State Dental Society. As I look over your roll, which numbered about seventeen a year ago, now I see that you have twenty-five; but out of that you have only six or seven who are members of the New Jersey State Dental Society. It makes me feel like coming here and saying

to each one of you, "Come join us. It would be a benefit to you and to the society."

Forty-four exhibits, every one of intense interest to each and every member of the dental profession, were in the Auditorium in Asbury Park last year. In 1901 we are assured that everyone will be there again and many new ones beside and these alone would amply repay the dentists for the attendance at the next session of the New Jersey State Dental Society in Asbury Park July, 1901.

I think it a very hard thing to discuss a paper like the one read tonight because it embraces about everything that ought to be said on the subject. If we attempt to discuss it very much we simply show our ignorance, because if we say anything that was not there mentioned it ought not to have been said. To sum that paper up in one word, taking out the kernel of the thought, it is the word of four letters, "work." You cannot succeed in this world unless you work, and work hard. Not Wednesday morning or Saturday morning, but from Monday morning to Saturday night. If you want to succeed in your professional life you must think of it morning, noon and night. If you want to succeed in your society you must do the same thing. It does not grow in a day or a year. You need to nourish it and cherish it and work for it and with it. Bolster up the weak points in new members, make them feel that there is work for them to do, a place for them to occupy. The work is in the society and their place is in the society. They cannot be as good members of their profession out of the society as they can be in it.

**Value  
of Societies.**

The state society meets one a year and it often happens that for some little reason you are not able to attend that meeting and you then lose an entire year; but your local society meets practically once a month and you cannot have ten good reasons for staying away from your local society. There is the field for work. Some may ask, "Well, what is the use of a dental society?" Several years ago I had occasion to visit a dental office. In fact, I was out with my wife. She wanted to visit a milliner, who had a place in the same building. As I was walking up and down the hall waiting for her, the dentist, who was an acquaintance, met me and said "Come in." I said, "Happy to meet you, doctor. How are you?" "Very well." "How is it," said I, "that you do not come to our society any more. It meets right near you." He said, "What good does it do? I don't see what good it is. You don't learn nothing there." And that was about the good it would do him. It was not worth while to say anything further. But I find that that man's grammar has improved as well as his gray

matter, and he now has ideas regarding his profession. He has joined a dental society and there is a change in him for the better. What good do you get from your dental society? We are not all perfect. Your neighbor knows just a little about dentistry, even if you do not think he does. He has some very good ideas and if he comes to the society he gives his views. It may seem little to you, but it will often be of great advantage to you. He has done good to himself and to the members of the society. In society work you get acquainted with your brothers in the profession and you see that you are not the only dentist in the world. This enlarges your view.

I hope we may not any of us here be in dentistry merely for the dollars and cents we make out of it. We must, of course, live and we must charge fees. But beyond a few dollars we should strive to improve the community, to bring some advantage to our fellow beings, to help and aid them and make life better for them. I have seen so many times changes come upon young men who for several years, for one reason or another, have stayed out of the society. They have kept on growing narrower and narrower instead of broader. You cannot stand still. You must either go forward or you must retrograde. Then when they do come into the society you can see the change come over them. These are the members you should strive to get.

I am sorry for the Southern Society that it is  
**Dr. Chase.** not possible for them to have as a member the one who in the dental society of the state of New Jersey has gained reputation. His talk is full of meat, and the thoughts he has dropped here tonight should hereafter prove advantageous. He has told you that it requires work, and hard work, to build up a society and make it useful to each and every member thereof. But also I would like to emphasize another fact; not only must you work, but see that you have sympathy. Do not let discord creep in. Keep it out. Do it by gentle means, if possible. Let each and every man contend to see who can work the hardest and the best. See who can bring some one before you to read a paper. Each and every man has ideas of his own. He may not see things in the same way as others, but unless he joins the society, comes in contact with his fellows, gives out ideas of his own and receives the ideas of others he is bound to go backwards. He cannot stay in his office and say, "I am the great dentist of the world, of the state or the city." He is not. No man is perfect. It has been well said "the perfect men are dead." I believe they are—I do not know where they have gone though. There is another thing in thus coming together and exchanging ideas. In living out of the society you are apt to criticise some operation that some fellow

brother in the profession may have performed, and perhaps do harm to the dentist that did the operation. That is all wrong. As soon as you get together as brothers instead of condemning him you find excuses for him. Many young men come into the society and are not afraid to say what they think, instead of feeling that "I cannot talk well enough." They are all friends here, friends and brothers and you can say what you think, just as you would in your own homes. Here is the influence which goes to make the most of life.

Dr. Meeker has well spoken of the State Society. The State Society was born of the Central Society. He knows what it meant to bring up that society. He also knows what it cost to bring up the Central Dental Society of Northern New Jersey. He and those around him worked and kept on working until it is today one of the finest societies in the state, or in the country or in the world. I urge tonight that each and every member of this society who is not a member of the State Society become a member of that society just as soon as he possibly can.

I can only say that if you wish to know how  
**Dr. Fish.** to run a society, you should come up to Asbury Park next summer. It is going to be the biggest meeting ever held. Nothing like it. Firms are going to exhibit there who have never exhibited before. I am coming down here in southern New Jersey to pick out one or two men to put on the exhibit committee. There shall be no north and south in New Jersey. There will be that union which cannot be severed and there will always be that sympathy between the northern society and the southern society of New Jersey.

I was anxious to know what Dr. Meeker would  
**Dr. Gregory.** give you tonight. A man who has been laboring in dental societies a great many years must have obtained a great deal of experience.

There was one thing in the paper which may be elaborated upon, and that was in regard to fees such as Dr. Atkinson received. Of course we are all willing to receive as large fees as we can get, honestly. But we should not obtain fees dishonestly, as did a man who had been with a physician many years, but who lost his position as driver because of the death of the physician. After sitting around the house for some time his wife chided him for not seeking some means to pay for their personal wants. Sitting with his hands holding his head he thought he would stir himself and see what he could do. He had become familiar with many of the doctor's ways and he thought that his fourteen years experience ought to be worth something to him and he decided that as there was no examining board for the state he

would hang out a shingle and secure a practice. So he hung one out. He waited several days and received no calls for service. Finally there was a ring at the bell and he answered it himself. A lady said she desired treatment. He said, "Very well, come this way. My fee is invariably ten dollars in advance." She protested but he insisted and she paid it. After having received it he said, "Let me see your tongue. Let me feel the beating of your heart. Oh, it is water on the heart."

The subject has been so thoroughly discussed by others who are visiting us that it does not seem necessary for me to say anything, yet at the same time I feel compelled to congratulate Dr. Meeker upon having written one of the most complete, most thorough, most helpful papers on the formation of dental societies that I have ever heard and that I believe could be written, and I also want to congratulate the members of the Southern Dental Society of New Jersey on having heard Dr. Meeker, because,—he of all men is the man best qualified to speak on this subject, not only in the state of New Jersey, but in the United States.

I had expected to hear something more from  
**Dr. Irwin.** Dr. Irwin on the subject. I believe he was down to talk on, "How Not to Run a Dental Society."

Probably we could get some points from him that would be to our advantage. I am young in dental societies. I started when this society was organized. I feel very glad indeed to have been here to hear Dr. Meeker's paper and also the remarks of the other gentlemen. It is always an advantage to hear other people's ideas upon a subject and we can always gain something from them, and I think I have been benefited. I feel greatly indebted to Dr. Meeker.

I think our society is greatly indebted to Dr.  
**Dr. Mary E. Robinson.** Meeker and the friends from the Northern Society who have talked to us tonight, and I feel we shall be greatly benefited by what they have said.

I joined the State Society, I believe in '97, at  
**Dr. Jacquette.** Atlantic City. I am very glad that I am a member.

I am sorry that the meetings come only once a year at a time when I am unable to attend. I am very glad this society has been started and I do wish our members would join the State Society, because the few times I have been there I have been greatly benefited.

Nothing I can say will add to what has already been said. I listened to Dr. Meeker's paper and also the remarks from the friends. I am a member of the State Society. I gain considerable by attending the

state meetings, and I also feel very glad that this society has been organized in the southern part of the state. It is the only way we have of getting together and exchanging ideas. I would like to see every member of this society become a member of the State Society. I fully appreciate the demonstrations brought before the State Society. In fact I personally gain very much from these demonstrations.

After having heard Dr. Meeker's paper, and  
**Dr. L. C. H. Dawes.** the advice from our visiting friends, the wonder to me is that we have existed a year without hearing such a paper. After having had both, I am sure that our society will make a better showing at the next anniversary.

I would simply say I am sure we have all been  
**Dr. H. K. Wood.** greatly benefited by what we have heard tonight. I know that this has been my first experience with dental societies, but it has been greatly beneficial to me. I have become acquainted with my brother practitioners in town. The society has been a wonderful thing to me and I am sure it will be in the future.

Dr. Irwin intimated a while ago that we might  
**Dr. E. C. Bower.** be afraid of the officers or visitors from up the state. They do not look very dangerous. I want to say about Dr. Meeker's paper that I was very much interested in it; but I am sorry that I am not able to say anything about dental societies. Dr. Riley said I could see how a dental society ought to be run if I came up next summer. If I can raise eight dollars, or if the walking is not too bad, I expect to visit Asbury Park at that time.

I am sure I consider myself fortunate in being  
**Dr. M. P. Shoemaker.** able to listen to such a paper. We can take that paper as a sort of guiding star for our work in the future.

I was one of the last members to join this  
**. C. Ironside.** society, and I think I see more tonight than ever before of what value a dental society really is. I have been attending the meetings regularly, but this talk has done me more good than any the society has had for a long time. I attended the State Society at Asbury Park in 1897 and had a good time, and hope to attend the meeting next year.

I am not a speech maker, but I can say I have  
**Dr. Sharp.** enjoyed Dr. Meeker's paper. I am glad to be here, and want to do my little share towards making the society a success.

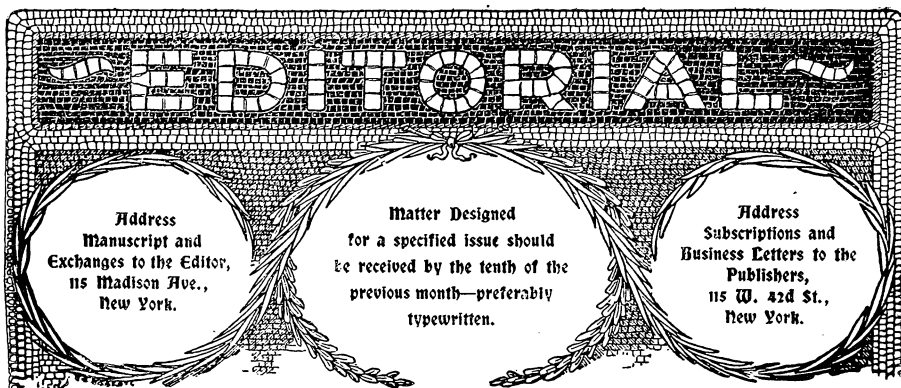
I did hope one of you would take up the sub-  
**Dr. Meeker.** ject of my paper in reference to the respect that comes to a dentist from the public by the position

which he occupies in the society. I believe if there were more dental societies and more members we would see less dental parlors. The general public of course does not know as much about dentistry as we do. Each dentist has a certain number of cultured patients who read the different scientific journals, and if it is known that you are taking a prominent part in the dental society your own patients know in time that you, instead of leading a life of idleness after your professional work is done, are doing something for the good of humanity. Then you will raise your professional standard in their estimation, and consequently you will be benefited financially. You will rise higher in the public estimation than you were before.

Dr. Riley, our president, has mentioned the state meeting. I hope you all will be there. Now I want to advertise this meeting because if we can get you up there we will keep up the enthusiasm. In this meeting, like everything else, we want to go ahead, and if you will look at the record of the New Jersey Society you will find we have been at the head for the last twenty years. When we had Dr. Atkinson we were at the head all the time.







## Pericemental Abscess.

At the last annual meeting of the New York State Dental Society held at Albany in May, 1900, Dr. Edward C. Kirk read an important paper entitled "Pericemental Abscess," which may be found in the *Transactions* of the Society and also in the *Dental Cosmos* for November, 1900.

The author therein states that pericemental abscesses had been noted as early as 1879 and 1880 by Dr. E. T. Darby, but, nevertheless, it will be recognized as true that little, if any, definite knowledge has been disseminated since that time in regard to abscesses upon living teeth.

In well marked cases of pyorrhea, it has been frequently stated that abscesses of this character may occur, but until the appearance of Dr. Kirk's paper apparently no one had supposed that these abscesses were caused by an infection separate from that associated with the pyorrhea itself; or to put it in other language, it had been commonly supposed that abscessed tissue found upon the sides of teeth where pyorrheal pockets were in existence, were never more than a thickening of the pericementum due to the presence of the pus generating bacteria associated with pyorrhea. It remained for Dr. Kirk to demonstrate that pericemental abscesses may be caused by an infection which reaches the pericementum through the blood channels. He says: "An interesting and important feature of pericemental abscess in this connection is the circumscribed character of the lesion, representing as it does an infection by an organism which has found

its way to a point of diminished vital resistance in the pericemental membrane either through the tissue or blood-current."

In addition to formulating this dogma, the author undertook to prove his point, and did so by making pure cultures from pus collected in pericemental abscesses, and injecting the same into lower animals. He exhibited on the screen microphotographs of sections from the kidney of a rabbit showing an abscess which he characterizes as follows: "Note that this is an experimental abscess. The culture was injected into the ear-vein of a rabbit, and after the death of the animal it was discovered that in the kidney there had been established a metastatic abscess by a transfer of the organisms from the point of infection to the kidney, setting up their activity at that point."

The deduction is that in similar manner, pus generating bacteria traversing the blood channels may be carried to a point in the economy where infection may occur and an abscess result, because of the lack of vital resistance in that situation; thus we may have an abscess forming upon the side of a living tooth.

**Successful Treatment  
of  
Pericemental Abscess.**

Dr. Kirk limited his paper to a discussion of the etiology of pericemental abscess, and consequently it may be of interest to record the successful treatment of two cases of this character. Whilst Dr. Kirk intimates that this class of abscess may occur without association with pyorrhea, he, nevertheless, considered it as most usually accompanying that lesion. The cases to be recorded both occurred in mouths in which there were no traces of pyorrhea.

The first was seen two years before the reading of Dr. Kirk's paper, and at the time was treated without any true recognition of the pathological facts presented. An examination of the mouth showed a fistula near the symphysis in the lower jaw, the opening being just at the junction of the tissues of the lip with the soft parts covering the alveolar process. The discharge was slight, and only obtainable by digital pressure. The history, however, indicated persistency and chronicity, the patient stating that the discharge had been observed by him during a period of about two years.

Various practitioners to whom he had appealed, members of both dental and medical professions, had declined active interference, because of the fact that all of the teeth appeared to be vital. Dentists recommended his

taking the advice of physicians, while the physicians returned him to the care of the dentists.

There was no doubt that all of the teeth were alive, as was very clearly shown by electric transillumination. Without therefore speculating as to the etiology, it was decided to treat the conditions presented in a surgical manner.

A longitudinal incision was made about an inch in length, and the hemorrhage being controlled, considerable caries of bone was discovered. At the first operation, the labial alveolar plate was removed from the two central incisors and one lateral incisor, and the bony septa from between the lower third of the three teeth. The wound was then packed with antiseptic gauze for twenty-four hours. At the second visit, all hemorrhage having ceased, a more thorough examination was possible, and it was found necessary to remove also a similar quantity of the lingual plate of the bone, leaving the teeth practically denuded of bone at the lower part except at the extreme apices, which apparently rested in sound tissue. The subsequent treatment included the usual antiseptic precautions following surgical procedure, and within two weeks the patient was allowed to return to his home with a favorable prognosis.

The second case came in immediately after the reading of Dr. Kirk's paper. In this instance, the patient called for consultation only, having been advised to do so by his local dentist. He was furnished with a letter calling attention to the facts brought out by Dr. Kirk, and advising operative procedure. This advice, however, was not taken, and the patient returned in January of the present year and asked for treatment.

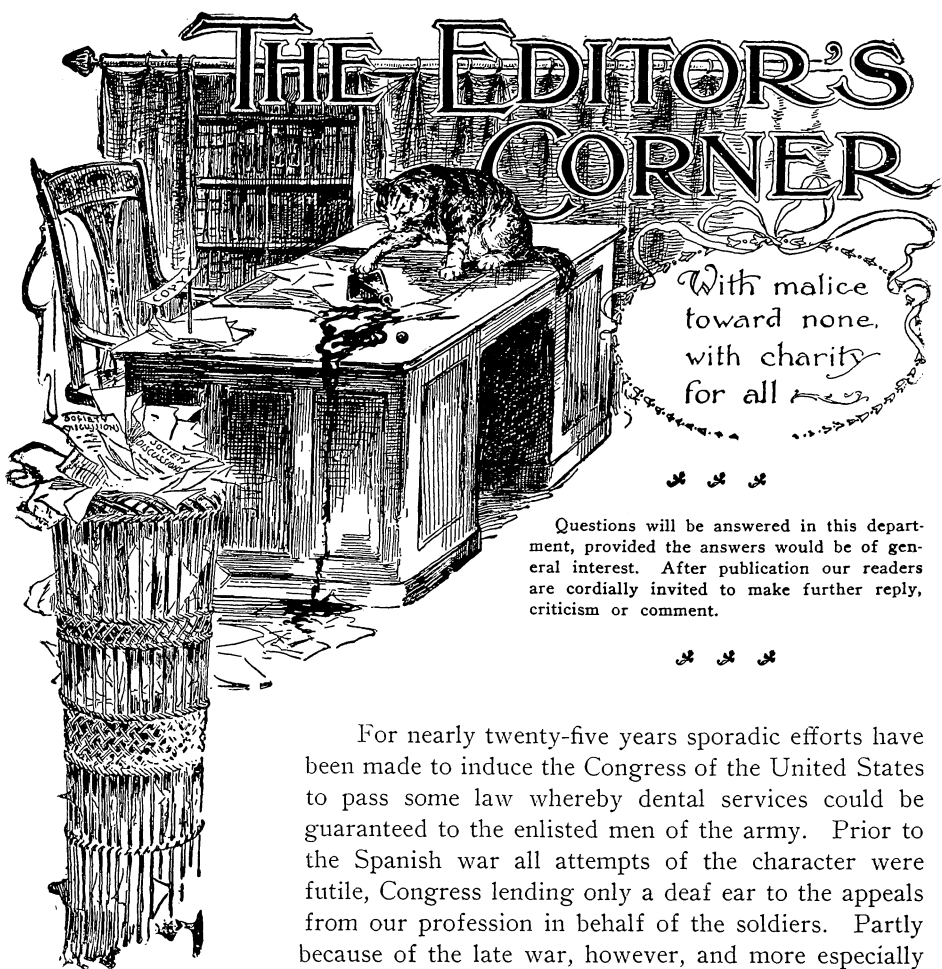
The fistulous opening in this case was found high up on the gum between the second and third molars, and both teeth were so apparently sound that it was found difficult to decide which, if either, might be the seat of the infection. Partial anesthesia was produced by cocaine, and the operation was performed entirely with bone burs and the engine.

A considerable portion of carious bone was removed at the first sitting, and the wound packed with a tampon charged with orthoform. This drug acted most satisfactorily, both because of its antiseptic and anodyne properties. At the second sitting, it was readily discovered that the seat of the abscess was on the mesial buccal root of the third molar. The abscess was removed with a curette, and further spiculæ of bone were

similarly taken away. The burring was then extended so as to remove all of the septum between the teeth and up to the floor of the antrum without, however, penetrating that cavity. The healing was rapid and without any recurrence of pus. Within ten days the patient was dismissed.

A coincidence of great interest is here to be recorded. On the day following the second operation, the patient for whom the operation first described had been performed, presented himself for examination, this visit being about two years after the original treatment. It was exceedingly gratifying to find that every portion of the bone which had been removed had now been replaced by new growths of hard tissue, so that the alveolar process was sound and normal both labially and lingually, the vitality of all the teeth having endured. Consequently it is fair to assume that pericemental abscess uncomplicated by pyorrhea may be considered as a local lesion, to be treated by surgical interference accompanied by proper antiseptic measures.





With malice  
toward none,  
with charity  
for all

Questions will be answered in this department, provided the answers would be of general interest. After publication our readers are cordially invited to make further reply, criticism or comment.

For nearly twenty-five years sporadic efforts have been made to induce the Congress of the United States to pass some law whereby dental services could be guaranteed to the enlisted men of the army. Prior to the Spanish war all attempts of the character were futile, Congress lending only a deaf ear to the appeals from our profession in behalf of the soldiers. Partly because of the late war, however, and more especially through the efforts of the Committee on Legislation of the National Dental Association, of which Dr. Wms. Donnally was the chairman, the bill has at last been

passed under which the experiment of supplying dentistry to the soldiers is to be tried.

**Dentists  
in the Army  
at Last.**

Several months ago the lower House passed a bill by which a veterinary corps was to be a fixture, the corps to be governed by a full staff of officers. At the time it seemed mortifying to some members of the dental profession to find that the horse doctors were to be officers, while all asked for dentistry was that a few men should be hired under contract. Correspondence with the committee at that time

elicited the fact that it seemed more than probable that the veterinary bill would fail to pass, whereas the more modest request of the dentists would be adopted, and it has so resulted. The section in favor of the veterinarians was stricken from the bill during its consideration in the Senate, whereas the paragraphs in relation to dentistry have been retained. These paragraphs are as follows:

"That the Surgeon-General of the Army, with the approval of the Secretary of War, be, and he is hereby, authorized to employ and appoint dental surgeons to serve the officers and enlisted men of the Regular and Volunteer Army in the proportion of one dental surgeon to every one thousand of said army, and not exceeding thirty (30) in all. Said dental surgeons shall be employed as contract dental surgeons, under the terms and conditions applicable to army contract surgeons, and shall be graduates of standard medical or dental colleges, trained in the several branches of dentistry, of good moral and professional character, and shall pass a satisfactory professional examination: *Provided*, That three of the number of dental surgeons to be employed shall be first appointed by the Surgeon-General, with the approval of the Secretary of War, with reference to their fitness for assignment, under the direction of the Surgeon-General, to the special service of conducting the examinations and supervising the operations of the others, and for such special service an extra compensation of \$60 a month shall be allowed: *Provided further*, That dental college graduates now employed in the Hospital Corps, who have been detailed for a period of not less than twelve months to render dental service to the army and who are shown by the reports of their superior officers to have rendered such service satisfactorily, may be appointed contract dental surgeons without examination."

The above form a part of the Section 18 of the new army law, approved February 2, 1901, known as "Public No. 30," copies of which can be obtained on application to the Chief Clerk, State Department, Washington, D. C.

It will be noted that, under the provisions of the bill, three men were to be appointed who should conduct examinations as to fitness for the service. These have been appointed as follows: Dr. John S. Marshall, of Chicago, Ill., President; Dr. R. T. Oliver, of Indianapolis, Ind.; Dr. R. W. Morgan, of Lynchburg, Va.

Because of his conspicuous services and untiring efforts in the work of passing this bill, many of the profession were desirous of having Dr. Wms. Donnally receive one of these appointments, and his name was recommended by Surgeon-General Sternberg, the Secretary of War, however, declining to appoint him, basing his refusal entirely upon his view that no one who has been influential in securing legislation should personally profit by the law when enacted.

**The Use of  
Peroxide of Sodium.**

Dr. I. T. Mason, of Portland, Oreg., writes as follows in regard to the use of peroxide of sodium: "I have been much interested in the articles on peroxide of sodium in recent issues of ITEMS OF INTEREST, for I have been using it exclusively for five years when dressing pulpless teeth. My plan is to devitalize and instruct the patient to return in forty-eight hours; then remove the pulp, open canals as carefully as possible, take a lump of peroxide of sodium, large as a wheat grain, and place it in the tooth, and then work it thoroughly into the canals with a broach, after which the canals may be filled at once and a permanent filling put in at the same sitting. It is absolutely necessary to use a rubber dam as peroxide of sodium is a powerful antiseptic and therefore injurious to mucous membrane. It will also injure towels or napkins, or clothing of patient or operator. Never use any dressing after the application of peroxide of sodium."

**Value of  
the Estate of  
Dr. Evans.**

The following, from the *New York Herald*, gives an interesting statement as to the value of the property left by the late Dr. Thos. W. Evans: "Real estate transfers made yesterday in this city mark as an accomplished fact the settlement of the contest of the will of Dr. Thomas W. Evans, a famous American dentist, who died in Paris, leaving an estate of \$4,000,000. The value of the estate here was also shown. By these transfers, which were made by several of the heirs, a clear title to the property seems to have been acquired by Dr. Evans's executors, and no obstacle remains to the establishment of the great dental institute and museum bequeathed by Dr. Evans to the city of Philadelphia. It was recently announced by City Solicitor Kinsey, of Philadelphia, that a settlement of the will contest had been reached, and that the Thomas W. Evans Museum and Institute Society would soon have \$3,000,000 at its disposal.

Chief among Dr. Evans's holdings in this city was the entire block bounded by Ninetieth street, Broadway, Eighty-ninth street and West End avenue. He also was the owner of No. 125 Fulton street, No. 44 Ann street, No. 64 Pearl street, No. 38 Water street and No. 26 John street. The value of these holdings is roughly estimated at \$750,000. The transfers are made by Catherine E. Wheeler, Thomas B. Enos, Horace Enos, Julietta C. Henderson, John R. Enos, Charles H. Enos, Anna E. M. Haberton, Clara E. Davis and Kate G. Muller, heirs of Thomas W. Evans. The heirs disputed the will leaving them but \$275,000, presenting a will giving them \$1,000,000. As a compromise they were allowed \$800,000 in addition to the \$275,000."

**Injury Caused  
by  
Gold Crown.**

The following newspaper clipping gives us one more argument against the use of gold crowns in the incisal region:

"Joe Bernstein, the East Side champion, came back to town today sound as a dollar. The story of a broken jaw, at the hands of 'Young' Corbett, proves to be a weird tale from the woolly West. The truth of the matter was this: Bernstein's upper lip was cut open by a gold tooth which the East Sider has in the front of his mouth. A blow from Corbett knocked the tooth out and at the same time split the lip wide open. The ragged edges of the tooth hung in the lip and another blow badly mangled the flesh. Bernstein by this time was bleeding like a stuck pig and in horrible pain. He was afraid his whole upper lip would be torn away and was forced to stop fighting."

**Dentists  
Not Recognized  
by Pharmacists.**

Considering the strenuous efforts made in recent years by manufacturing pharmacists to obtain the custom of dentists, and also their increasing production of many preparations made primarily for dental use, it seems strange to find the following resolution, introduced by Mr. A. L. Benedict, editor of the *American Therapist*, failed to be seconded:

"WHEREAS, Dental therapeutics has called for the use of several medicines not used in general medicine; be it

"Resolved, That all important dental societies and all incorporated dental colleges recognized by the Association of Dental College Faculties be given equal representation in the revision of the United States Pharmacopœia of 1910."







## **The American Text Book of Operative Dentistry.**

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In Contributions by Eminent Authorities. Edited by EDWARD C. KIRK, D.D.S.  
Professor of Clinical Dentistry in the University of Pennsylvania, etc.  
Second Edition, Revised and Enlarged. Illustrated With Eight  
Hundred and Ninety-seven Engravings. LEA BROTHERS  
& Co., Philadelphia and New York, 1900.

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The extensive sale of this work, rendering a second edition necessary, is sufficient evidence of the favor with which the book has met among our colleges. A discussion of the advantages of a composite work of this character, as compared with the disadvantages that are bound to ensue when the same subject is presented to the student in different forms by different authors and in different portions of the same book, would unquestionably make interesting reading. In our review of the first edition of this work, this question was gone into at some length, and it is a source of gratification to notice how much of this confusion has been eliminated by the very able editing which the second edition has received. To harmonize the ideas of seventeen separate dental authors is no mean task, and Professor Kirk may well feel proud of the meed of success he has attained in the second edition. Three new chapters have been written for the book. The most important of these new contributions is Chapter No. III on "Dental Histology with Reference to Operative Dentistry," by Dr. Frederick B. Noyes, of Chicago. A perusal of the entire volume will give the student no instruction of greater value for the filling of carious teeth than this contribution by Prof. Noyes. It surpasses in merit anything that has hitherto been published in this field, and as the author frankly acknowledges his indebtedness for assistance to Prof. G. V. Black, we need not be surprised at the product. The illustrations of the admirable microscopic sections of teeth, and especially of enamel, are printed by the publisher with such remarkable clearness that they are almost equal to a view of the sections themselves. We would call especial attention to that

part of the chapter entitled "Histological Requirements for Strength in Enamel Walls." Under this heading the author presents three necessary propositions, as follows: (1) The enamel must be supported upon sound dentine. (2) The rods which form the cavo-surface angle must run uninterruptedly to the dentine and be supported by short rods, with their inner ends resting on the dentine and their outer ends abutting upon the cavity wall, where they will be covered in by the filling material. (3) That the cavo-surface angle be cut in such a way as not to expose the ends of the rods to fracture in condensing the filling material against them. With these three propositions as a groundwork, the author presents a long series of magnified sections showing the histological formation of the enamel rods in the different forms of cavities and then presents magnified sections of the same specimens after the enamel margins have been prepared in such a way as to leave the enamel rods invulnerable to cleavage after a proper filling has been inserted. While it is always easy to find some histological points of contention as, for instance, the dogmatic claim of Dr. Noyes that the peridental membrane is not a double membrane and his unreserved adherence to Black's peridental glands, both matters of serious dispute, yet on the whole no more trusty groundwork of operative dentistry has ever been placed in the hands of a dental student.

The next important new contribution is Chapter XV, entitled "Restoration of Teeth by Cemented Inlays," by Dr. Joseph Head, of Philadelphia. The well-known ability of Dr. Head in this line of operative work has been frequently demonstrated by the various clinics that he has given during the past few years. To the student who desires to perfect himself in this line of work, Dr. Head has given a clear and detailed elucidation of the technique involved. This has been amplified by very choice illustrations. Having said this much, it is impossible to leave this chapter without expressing the strongest disapproval of the arguments used by the writer in order to place an undue value upon cemented inlays. The strong bias of the author predominates the chapter, so that a great deal of the real value of his lucid interpretation of the technique of this work is lost on account of a natural opposition that must arise against the sophistry of his theorizing. If Dr. Head comprehended properly the teachings of Professor Noyes in Chapter III, it is questionable whether he would have written the following sentences on page 302: "Unfortunately, in the soft, sensitive teeth of nervous patients the manipulation of cohesive gold does not result in the exclusion of decay germs. The tooth margins are powdered or weakened in some way by the manipulation or apposition of the gold, and the entering germs cause rapid decay, the cohesive gold not having the antiseptic power of restraining them." In the same manner he has compiled what he calls a table, showing characteristics of different filling

materials. This table is built up from a misapprehension of how cavity walls should be prepared for the proper insertion of a gold filling, and consequently is valueless. No one questions the fact that for aesthetic and cosmetic purposes the porcelain inlay has established for itself a permanent place in operative dentistry which no man of repute can ignore. This in no wise interferes with the generally accepted belief of the profession that a gold filling properly inserted in a properly prepared cavity is the best known method of ultimately preserving any tooth.

The remaining addition to the book which is distinctly new is Chapter IV, entitled "Antisepsis in Dentistry," by Prof. James Truman, of Philadelphia. No one else could have been selected who could have handled this subject in so masterful a manner. It is a timely addition to the work and presents all that is needed in the concise and clear-cut manner for which this teacher is so well known.

The other chapters have all been reviewed at length in *ITEMS OF INTEREST* on the appearance of the first edition. The book has a hundred and fifty pages more added to it in its present form, and is a worthy product of the well-known publishing house from which it emanates.

M. L. R.





### **William George Beers, D.D.S., L.D.S.**

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Dr. William George Beers died at his residence, 107 Metcalfe street, Montreal, on December 26, 1900, aged 57 years. The cause of his death was heart disease and complications. He was born, May 5, 1843, in the city of Montreal, and obtained his early education at Lower Canada college and Phillip's school, Montreal. His training for the profession of his choice was obtained in the office of Dr. Dickenson, of Montreal, after which Dr. Beers entered upon the practice of dentistry in his native city in 1865. In addition to the L.D.S. degree of the Province of Quebec he obtained the L.D.S. degree of the Province of Ontario in 1870, and subsequently the same degree in England. At the affiliation of the Dental College of the Province of Quebec with Bishops College, Montreal, the degree of D.D.S. was conferred upon him.

On November 27, 1867, Dr. Beers was united in marriage with Mary Elizabeth Hope, of Kingston, Ont., who, with their two sons, Arthur Hope Beers, M.D., C.M., D.D.S., L.D.S., and James Crawford Beers, now mourns the loss of one of the most devoted of husbands and kindest of fathers. The death of their only daughter, six months previous to the death of Dr. Beers, was a sad blow which probably hastened his end.

Dr. Beers was a prime mover in the struggle for the advancement of the dental profession in the Province of Quebec in a legal and educational sense, and to his untiring and disinterested advocacy of an incorporated profession is largely due the high status of dentistry in that province. For many years he served on the Provincial Dental Board of Examiners as secretary and president at a time when this work was entirely a labor of love.

The difficulties of establishing a college were largely increased by the necessity of having lectures given both in English and French. Dr. Beers was for several years a lecturer in the college, and the esteem in which he was held by his colleagues is evidenced by the fact that he held the position of Dean of the Faculty until he voluntarily severed

his connection with the college. He was an honorary member of nearly all the provincial dental societies in Canada, and a corresponding member of several British and American societies. He was ever a forceful, fearless writer on dental subjects, and was widely known in dental circles not only in his own land but throughout the English speaking world, enjoying the personal friendship of such men as Sir John Tomes and Sir Edwin Saunders in England, as well as many of those who have moulded the thought of the profession in the United States during the last thirty years.

Dr. Beers' characteristic generosity is well illustrated by the mention of his donation a few years ago of his splendid dental library, consisting of over five hundred volumes, to the Dental College of Toronto.

The editorial pages of this journal for the past twelve years, and also those of the *Canadian Journal of Dental Science* back in the seventies are the best samples of Dr. Beers' trenchant style and of his untiring zeal for the advancement of his profession. He never wearied berating the quack, and it is interesting to note, among other advanced ideas advocated years ago, that as far back as 1889 an appeal was made by him for a Dominion Dental Association, having for its aim the securing of reciprocity between the provinces in the matter for diplomas, a question that is just now engaging the thought of those interested in dental education throughout Canada, and which will in some form, we trust, become in the near future an accomplished fact.

The *Canadian Journal of Dental Science*, edited and published for several years by Dr. Beers, was the first attempt at dental journalism in Canada, and had a large circulation, not only in Canada but also in the adjoining Republic and in Great Britain.

When we view the life of Dr. Beers outside his profession we are amazed at the versability of his talents, and the many important movements he was enabled to inaugurate. He was above all else a patriot. At this hour when all hearts are bowed with sorrow for the death of our beloved Queen Victoria the good, "of noble virtues and high renown," no Briton would have grieved more sincerely, had he been in life, than George Beers. "Here is a picture of the Queen, God bless her," he said, as he presented a coin to a poor child who had done him a service. Although a most amiable and peaceable man he was always ready to defend the honor of the Queen and country, not only in private life, but on the field of battle. During the Fenian raids in 1866 and 1870 Beers served at the front, being one of the original members of the Victoria Rifles. He organized No. 6 Company, largely from the old Beaver Lacrosse Club. Passing through the ranks he retired with the rank of Captain in 1881, and subsequently became a member of

the Victoria Rifles Reserve. He did not hesitate to express himself on any national question. In October, 1888, he delivered an address before the New York State Dental Society at Syracuse, in the course of which he castigated the people of the United States of America pretty strongly for its treatment of Canada. Some years ago when there was a movement among certain classes in Canada for annexation to the United States his pen was wielded vigorously in favor of British connection. "I would teach a boy," he said to the writer a few weeks before his death, "the Lord's prayer first, and God Save the Queen next."

In the athletic field Beers was a prominent figure, and is known throughout Canada as "The father of lacrosse," Canada's national game. He saw it played by the Caughnawaga and St. Regis Indians, and saw in it a game well calculated to develop the youth of Canada. He formulated the first set of rules for the game which are practically the rules in use today. He also wrote the first book on the subject of lacrosse, a work which has not been surpassed by any writer since.

In 1876 he organized and captained a team of Canadian and Indian lacrosse players who visited England, Ireland and Scotland, and by special request played before the Queen, who presented each player with a photograph of herself bearing her autograph.

In 1883 a second lacrosse team toured Great Britain under his management. Dr. Beers was widely known to magazine readers as a writer on Canadian sports and pastimes, contributing series of articles to the leading American magazines, among others to *Lippincott's*, *Scribner's* and *Century*. He was the only life member of the Montreal Amateur Athletic Association, and the honorary life president of the Montreal Lacrosse Club. He was one of the founders of the Canadian National League.

At his funeral, which took place on December 28, the members of the Montreal Athletic Association, Victoria Rifles Reserve, No. 6 Company of the Victoria Rifles, and the different Lacrosse and Snowshoe Clubs were in procession. To quote from a Montreal daily, "A well known dentist, a fearless patriot, a famous athlete, an efficient militia officer and a much respected citizen has passed away in the person of Dr. William George Beers."

G. S. M.,

*Dominion Dental Journal.*



### **National Society Meetings.**

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National Dental Association, Milwaukee, Wis., August 6.

National Association of Dental Examiners, Milwaukee, Wis., August.

National Association of Dental Faculties, Milwaukee, Wis., August 1.

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### **State Society Meetings.**

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Alabama Dental Association, Montgomery, May 8, 9, 10.

California State Dental Association, Los Angeles, July 9, 10, 11, 12

Connecticut State Dental Association, Hartford, May 21, 22.

Delaware State Dental Society, Wilmington, June 5.

District of Columbia Dental Society, Washington, December.

Florida State Dental Society, Tampa, May 15, 16, 17, 18.

Illinois State Dental Society, Rockford, May 14, 15, 16, 17.

Iowa State Dental Society, Clear Lake, May 21, 22, 23.

Maine Dental Society, Old Orchard Beach, July 16, 17, 18.

Minnesota State Dental Association, Duluth, August.

Mississippi Dental Association, Yazoo City, June 11, 12, 13.

Missouri State Dental Association, Sedalia, July 9, 10, 11, 12.

Nebraska State Dental Association, Omaha, May 21, 22, 23, 24.

New Jersey State Dental Society, Asbury Park, July 17, 18, 19.

New York State Dental Society, Albany, May 8, 9.

Ohio, Michigan and Indiana State Dental Associations, Indianapolis, June 4, 5, 6.

North Carolina State Dental Society, Morehead City, June 26, 27, 28.

Ohio State Dental Society, Columbus, December 3, 4, 5.

- Oklahoma Dental Association, Oklahoma City, May 7, 8, 9, 10.  
South Dakota State Dental Association, Sioux Falls, June 11, 12,  
13, 14.  
Tennessee State Dental Association, Monteagle, July 2.  
Vermont State Dental Society, Montpelier, March 20, 21, 22.  
West Virginia State Dental Society, Mannington, August, 29, 30.
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## **Second District Dental Society.**

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### **Special Notice.**

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An exceedingly important meeting of this society will be held on Monday evening, March 11, at The Argyle, Fulton street, Brooklyn, N. Y. Dr. R. Ottolengui, of New York, will read a paper entitled "Extension for Prevention. With Special Relation to the Gingival Enamel Margins in the Preparation of Approximal Cavities." This paper combats the attitude of Dr. Black in relation to the advisability of extending the gingival margins of approximal cavities.

Following the reading of the first paper, there will be a prepared debate on the subject from gentlemen who have had copies of Dr. Ottolengui's paper in order to be able to reply.

In favor of extension, there will be papers by Dr. G. V. Black, Chicago, Ill.; Dr. C. N. Johnson, Chicago, Ill.; Dr. E. K. Wedelstaedt, St. Paul, Minn., and Dr. M. L. Rhein, New York. Opposed, will be Dr. E. T. Darby, Philadelphia, Pa.; Dr. S. G. Perry, New York; Dr. B. Holly Smith, Baltimore, Md., and Dr. Wm. H. Trueman, Philadelphia, Pa. All of these gentlemen will be present with the exception of Drs. Johnson and Black.

The following societies have been invited to meet with the Second District: The First District Dental Society, the Odontological Society, and the Stomatological Society, of New York, and the Central Dental Association of Northern New Jersey.

It is anticipated that there will be a very large attendance in consequence of the extreme importance and the very practical nature of the subject. Members of the profession are cordially invited to attend, and are requested to be in their seats promptly at eight o'clock, as the meeting will be called to order at that hour exactly in consequence of the length of the programme.



## **A Legal Notice.**

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Know all men by these presents that on the fourth, fifth and sixth days of the sixth month, in the year one thousand nine hundred and some, Annie Dominoes, in the city of Indianapolis, State of Felicity, otherwise known as Indiana, with the Banks of the Wabash not Far Away and several other banks a good deal closer, there will be held, convened and, as you might say, congregated, a galaxy, or assemblage, of practicing dentists, for the purpose of meeting, getting together, and associating themselves in conclave, to hear papers and discussions, see clinics and exhibits, and otherwise inform, enlighten, refresh, and amuse themselves, in a just and lawful manner, according to that clause in the Constitution of the United States which insures every citizen of this republic protection in the pursuit of happiness.

And know all you same men, by these further Christmas presents, that this is the third, tertiary, or ternary, joint, or amalgamated, meeting of the State Societies of Ohio, Michigan, and Indiana, which said joint meetings take place, or occur, every third year, beginning at the commencement and may be called triennial in their being, as well as triangulate. And, therefore, as the first of these meetings, held at Detroit in 1895, was, is, and will be known as the O! I've meeting, and the second, held at Put-in-Bay, in 1898, was raised, and called, the Mi! O! meeting, be it hereby and hereon ordained, specified, ordered, and otherwise understood, that this coming Tri-State Dental Meeting of the State Societies of Ohio, Michigan, and Indiana, to be held at Indianapolis, Ind., June 4, 5, 6, 1901, shall be known officially as the O, Mi! meeting.

You are all invited to come and break bread with us.

If there is any further information desired that is not imparted in the above it may be accumulated by communicating with,

GEO. E. HUNT, Chairman.

Indianapolis, Ind.

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## **Vermont State Dental Society.**

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The twenty-fifth annual meeting of the Vermont State Dental Society will be held at Pavilion Hotel, Montpelier, March 20, 21 and 22.

GRACE L. BOSWORTH, Cor. Secretary.

Rutland, Vt.

### **A Complimentary Banquet to Dr. S. B. Palmer, April 13, 1901.**

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The Fifth District Dental Society of the State of New York is to tender a complimentary dinner to Dr. S. B. Palmer, of Syracuse, N. Y., in honor of his long years of faithful service, both in his office and in behalf of the profession at large.

Representative members of the dental fraternity will be present, and the affair promises to be most enjoyable.

The dinner is to be given at Syracuse on the evening of April 13, 1901, and an invitation is extended to the profession to be present. Dinner tickets will be issued before April 1 on receipt of \$5. Address the chairman of the committee in charge, Dr. G. B. Beach, 518 S. A. & K. Building, Syracuse, N. Y.

G. B. BEACH,  
A. RETTER,  
SHERIDAN SLOCUM,  
G. H. BUTLER,  
J. C. CURTIS,

Committee.

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### **Texas State Dental Association.**

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The next annual meeting of the Texas State Dental Association will occur at Sherman, Texas, on the 21st of May next, lasting three days. The profession cordially invited.

O. B. LOVE, President.

J. G. FIFE, Secretary, Dallas, Texas.

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### **Board of Dental Examiners of Pennsylvania.**

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The Board of Dental Examiners of Pennsylvania will conduct examinations simultaneously in Philadelphia and Pittsburg, May 7-10.

Apply to Hon. James W. Latta, Secretary Dental Council, Harrisburg, for papers and information.

G. W. KLUMP, Secretary.

Williamsport, Pa.

## **Nebraska State Dental Society.**

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The twenty-sixth annual meeting of the Nebraska State Dental Society will be held in Omaha, May 21, 22, 23 and 24.

F. D. SHERWIN, Cor. Secretary.

Lincoln, Neb.

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## **Massachusetts Board of Registration in Dentistry.**

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A meeting of the Massachusetts Board of Registration in Dentistry, for the examination of candidates, will be held in Boston, Mass., March 27, 28 and 29.

Candidates who have applied for examination will report to the Secretary, Wednesday, March 27, at 9.30 a. m., at Tufts College Dental School, 563 Tremont street, and come prepared with rubber-dam, gold and instruments, to demonstrate their skill in operative dentistry. Any one who wishes may bring his patient. As far as possible patients will be furnished. The Board in every instance selects the cavity to be filled.

The theoretic examination—written—will include operative dentistry, prosthetic dentistry, crown and bridge work, orthodontia, anatomy, histology, surgery, pathology, materia medica, therapeutics, physiology, bacteriology, anesthesia, chemistry and metallurgy, and will be held at Civil Service Rooms, State House, from Thursday, March 28, at 9.30 a. m., until Friday p. m., March 29.

All applications, together with the fee of twenty dollars, must be filed with the Secretary of the Board on or before March 20, as no application for this meeting will be received after that date.

Application blanks may be obtained from the Secretary.

Candidates who have taken an examination, and failed, who desire to come before the Board again at this meeting are not required to fill out a second application blank, but must notify the Secretary as above in order to be registered. The fee for third and subsequent examinations is \$5.00.

G. E. MITCHELL, D.D.S., Secretary.

25 Merrimack Street, Haverhill, Mass.

### **New York State Dental Society.**

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The annual meeting of the New York State Dental Society will be held on Wednesday and Thursday, May 8 and 9, in the assembly hall at Hotel Ten Eyck, Albany, N. Y. The following essayists will present papers on subjects to be announced:

G. V. I. Brown, M.D., D.D.S., Milwaukee, Wis.

E. S. Talbot, M.D., D.D.S., Chicago, Ill.

W. E. Griswold, M.D., D.D.S., Denver, Colo.

W. A. Purrington, LL.D., New York.

H. D. Hatch, D.D.S., New York.

A. R. Cooke, D.D.S., Syracuse, N. Y.

Members of the profession are cordially invited to be present. Headquarters, Hotel Ten Eyck. Special rates, \$3.50 per day.

JOHN I. HART, President.

W. A. WHITE, Secretary, Phelps, N. Y.

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### **Harvard Odontological Society.**

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At the annual election of the Harvard Odontological Society, January 31, the following officers were chosen for the coming year: President, Joseph T. Paul, D.M.D., 3 Park street, Boston; Recording Secretary, Robert T. Moffatt, D.M.D., 85 Newbury street, Boston; Corresponding Secretary, Arthur Henry Stoddard, D.M.D., 196 Marlboro street, Boston; Treasurer, Lyman F. Bigelow, D.M.D., 196 Marlboro street, Boston; Editor, Harry W. Halsey, D.M.D., 283 Dartmouth street, Boston.

Executive Committee—Robert T. Moffatt, D.M.D., Chairman; William P. Cooke, D.M.D., and Frank T. Taylor, D.M.D.

ROBERT T. MOFFATT, Cor. Secretary.

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### **Colorado State Dental Association.**

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The fifteenth annual meeting of the Colorado State Dental Association will be held in Denver, Tuesday, Wednesday and Thursday, July 9, 10 and 11, 1901.

H. F. HOFFMAN, Secretary.

California Building, Denver, Colo.